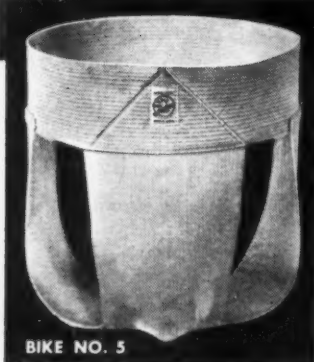
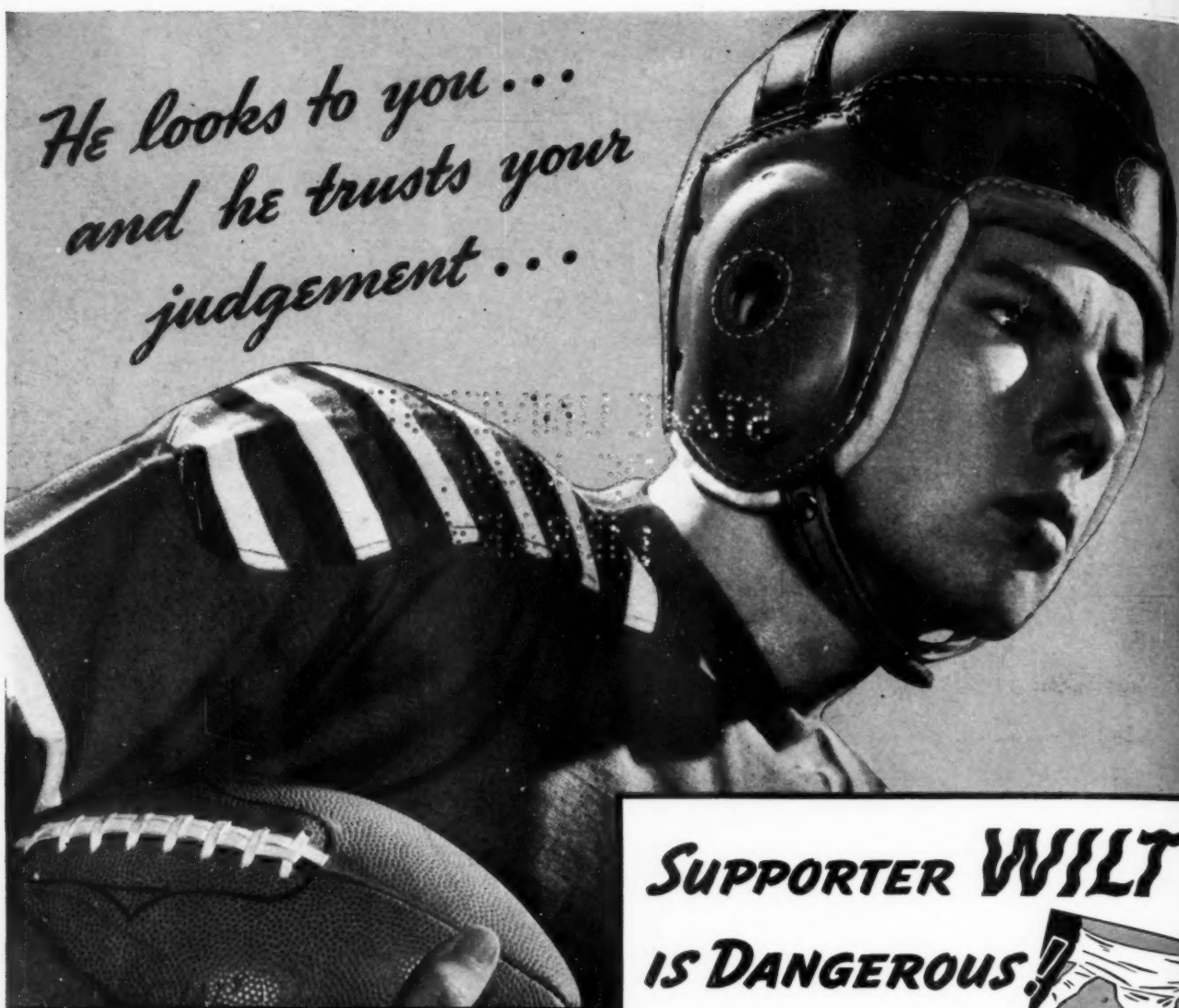


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SEPTEMBER, 1941

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(Illustrated above) High-Speed Photo of famous Sid Luckman of the Chicago Bears. Taken in Spalding Research Laboratory. Copyright A. G. Spalding & Bros.



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THAT young man you see above is Michael Bevans, and he's giving a drink of water to a snake. Those boxes contain other snakes and reptiles. He collected them in Florida and is now taking them to a New York Zoological Garden. His "herpetological" travels have taken him all over the U. S. and Mexico, but he's never been bitten by a snake... "Collecting is a game of 'hide-and-seek'," he says—"and I've been playing that game with cereals for years. Don't know how many I've tried. But Kix is the first one that really interested me. It's the best corn cereal I ever tried!"



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But all the scientific fame has not turned Wallace Minto's head! He remains a regular fellow, good in sports, a crack rifle shot, and likes fun.

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"It's a Lulu
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TAKE!"



CONTINENTAL Pictures of Kearney, N. J., is a famous amateur-juvenile movie group which writes, directs and takes its own pictures. They own all their own equipment, have made nearly 20 movies. The co-founder and director is Robert

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"And Kix eats swell... Has a taste as real as corn on the cob!"

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SCHOLASTIC COACH

Reg. U. S. Pat. Off.

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these tournaments, which are available without charge to every high school in the United States. They will be managed from the offices of Scholastic Coach, 220 East 42 Street, New York, N. Y.

In your school there are many softball players. Organize them into teams. You may play your games this fall out of doors or during the winter in the gym. Game schedules and a trophy for every member of the winning team will be sent to you without charge or obligation. You are not asked to make any purchase of any product to take advantage of this opportunity. Merely fill out the accompanying coupon.

SOFTBALL PLAYERS

● In the coupon below, estimate the number of students who might be interested in joining a team enrolled in a softball tournament.

● Upon receiving the coupon below, or a copy of it, Scholastic Coach will send you an instruction memorandum which contains suggestions for conducting such a tournament. These suggestions may save time for some coaches. Others may want to follow a system of their own. Run these tournaments any way you choose.

● You will receive 12 trophies: one for each member of the winning team and two for substitutes.

● You will also receive drawcharts. Post the announcement so that students who are interested will enroll. Fill in the names of teams on the Schedule Sheet, and your tournament is started.

● Scholastic Coach will publish several articles on the game. Watch for them. They may help your students to improve their games.

● You may have TWO tournaments in your school, if you prefer. If you want to have one tournament for boys and another for girls, two sets of trophies will be sent to you. You may start the tournament out of doors and continue it in the gymnasium.



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220 E. 42nd Street, New York, N. Y.

Please enroll my school
for boys' tournament girls' tournament and send the trophies, etc., to me.
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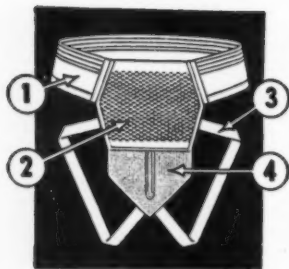
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My Name Position

Name of School Address

City State Enrollment of school: boys girls

NEW ATHLETIC SUPPORTER COMFORT



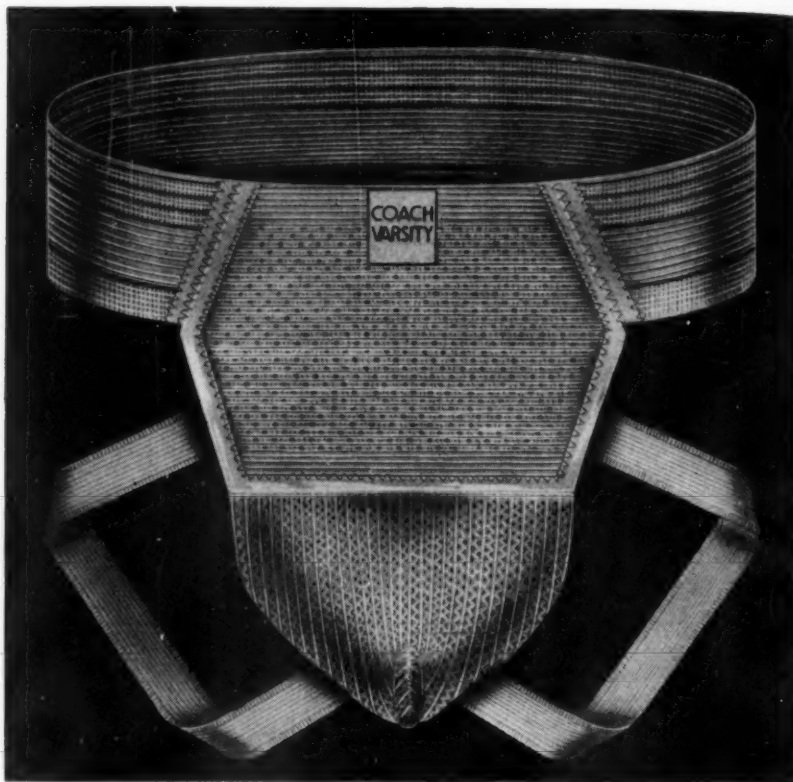
1. Slanting waistband, which is built for comfort, not only prevents sagging but actually provides abdominal support. Cup your hands under your abdomen and lift up—that's what the VARSITY does for you.
2. Mesh frontal piece, which stretches with the waistband, is cool and comfortable.
3. Soft elastic legstraps are only one inch wide and do not come up the back to the waistband. This construction is designed to prevent discomfort or chafing.
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Patented construction eliminates sagging. Because the front is lower than the rear, the elastic force is upward rather than inward. You'll feel more comfortable with this scientifically designed supporter.



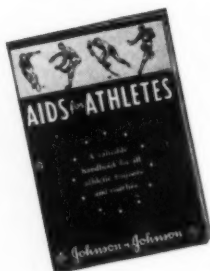
Varsity legstraps are used to hold the pouch front and center. They cannot pull the waistband down or slip into the groove between the buttocks. They'll keep out of your way while providing comfort.



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Here, at last, is a New, Better, Exceptionally Comfortable Supporter.

Coach Varsity is designed for anatomical conformation. It is featured by Johnson & Johnson. Coaches and trainers will see at a glance the many innovations and improvements. The materials and workmanship are, of course, up to the Johnson & Johnson standard. We suggest you try the Varsity. Experience supporter comfort such as you have never known before.



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"Aids for Athletes." Book just off the press—sent free upon request to coaches and trainers. A valuable illustrated handbook containing the latest technique on bandaging.

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NEW BRUNSWICK, N. J. CHICAGO, ILL.

Here Below

FOR years we always thought that underneath the gaudy lapel badges of our august tennis fathers beat hearts of decarbonized iron. Well, we were wrong. That austere front they present to the world is only a pose. Underneath it all they're a bunch of softies, even as you and I.

They're now busily engaged in giving the once royal pastime to the man in the street. Notice we didn't say back. The man in the street never had it.

The reformation started some years ago with the recognition of

ON THE THRESHOLD of a new school year we find our country immersed in a gigantic preparedness program. A great army is being molded. Aircraft, ships, tanks and other vital armaments are rolling off the assembly lines in ever-increasing volume. Defensive industries everywhere are "pitching" for Uncle Sam.

These are the materialistic phases of preparedness. What are some of its needs in terms of human values?

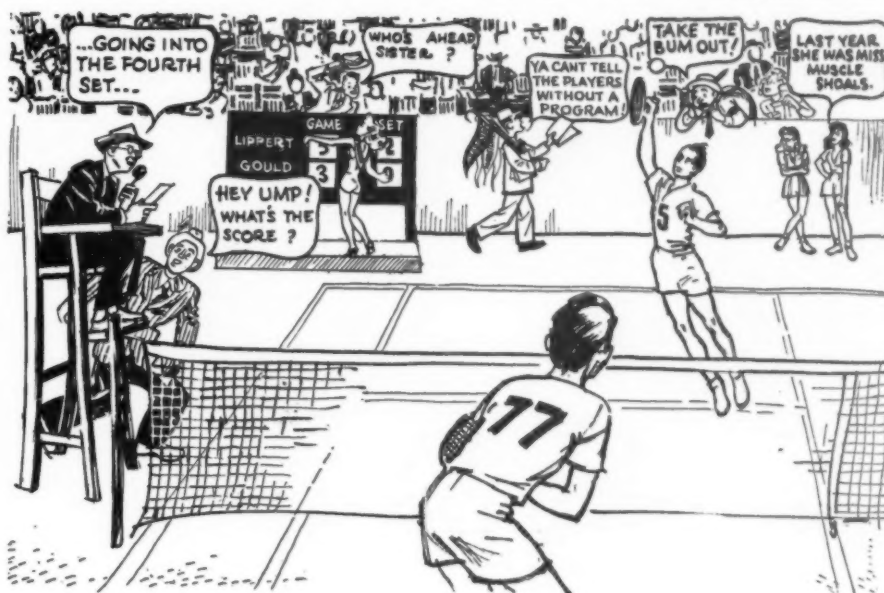
The program calls for men and women who are mentally and physically fit. It calls for men and women who know and who practice the responsibilities of American citizenship, and who know how to live with other men and women. It calls for people of moral stamina, resolute in their decisions for right, and willing, if need be, to pay the price of their righteous convictions.

What have our physical education activities to offer in this respect? Much. In a recent bulletin of the United States Office of Education, health and physical education was placed first among the phases of the school program that could aid in the strengthening of democracy.

That physical education goes hand in hand with physical fitness no one will gainsay. But to link physical education with democracy may appear at first sight to be a distortion. Nevertheless this connection is genuine. Sport is competition between individuals. It calls for intense individual efforts and in many games, it calls for team play, both of which are the warp and woof of successful democracy.

The analogy can be carried further. Raymond Gram Swing, in his introduction to John R. Tunis' *Democracy and Sport*, says:

"Sport rests on rules which must be impartially enforced and willingly accepted. Sport must be imbued with the spirit of fairness, a consideration on a higher level than technical law. Both impartial law and the concept of fairness are the foundations of a democracy.



"Boys and girls learn the principles of citizenship in their games just as much if not more than in their schools. They learn them as group standards, not taught to them by dull teachers, but as a living code, essential in balance between their own enjoyment and the enjoyment of their successes. . . .

"If sports are vital, if they are based on character, ability and team play, if they are ardently submitted to the rule of law, then the society which produced these qualities and their canons is inherently safe and living."

On the basis of this point of view, no spectacular or sensational projects need be initiated to keep our physical education programs in step with the defense program; no radical disarrangements of the curriculum, no pyramiding of extracurricular activities. But attention should be given to more effective ways in which new emphases can be placed upon age-old values.

Each state, each community and each school must evaluate its own strengths and weaknesses, explore its own possibilities for service, and effect the necessary changes. The physical education profession should do more effectively the good things it has tried to do in the past.

the press as a free people. Ere long even the bete noire of the genteel tennis set—the photographers—were being allowed to set foot on the hallowed turf.

If any further proof was needed of the fathers' new democratic outlook, a visit to Forest Hills (N.Y.) last week was the clincher. For the first time in the history of the national singles championships, the job of scoreboard keeping—heretofore a sacred privilege of the homo male—was entrusted to the more deadly (accurate) of the sexes.

According to the tournament press agent—another recent acquisition—the typical Miss Score Board of 1941 is a modified blonde, five-five in height, majors in economics, has a social security number, and a well-tanned athletic figure.

She owes her new station in life to the war. "With the demands of national defense" reads a communique, "such substitutions are bound to increase in number, and we feel we must fall in line." This makes Miss Score Board an ersatz product. Vive la guerre!

Above is our conception of what the future may hold for the nationals, judging by present trends.

Fred coaches well for captain Ford team Bowl, and line coach in 1939, shoes. He fore swi

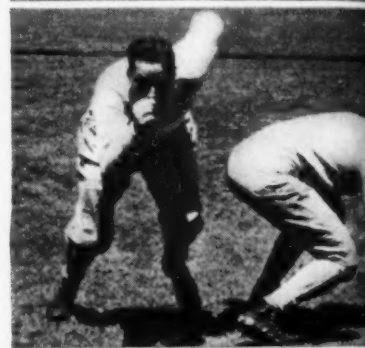
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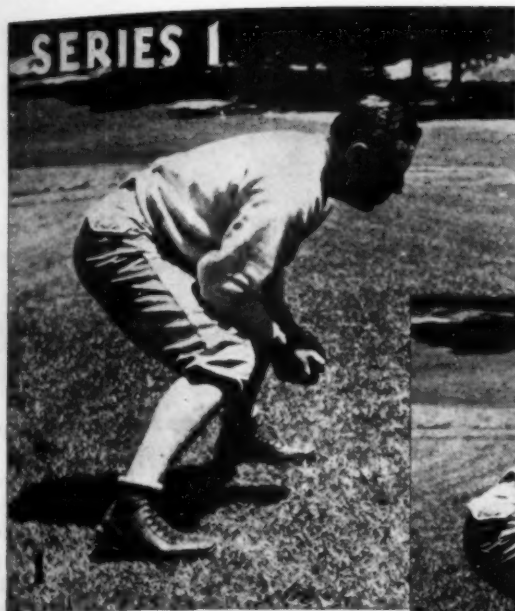
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SERIES 2 and 3





Fred Swan, one of the greatest line coaches of the day, now tutors the forward wall for Andy Kerr at Colgate. He was captain and guard on the great 1926 Stanford team that tied Alabama in the Rose Bowl, and served Pop Warner six years as line coach at Temple. When Warner retired in 1939, Swan stepped into the head man's shoes. He filled this post for two years before switching over to Colgate last season.



IN THIS era of "blitzkrieg," where attack and counterattack both move with lightning-like rapidity, the old Confederate axiom of "getting the mostest men there the fustest" determines the victor in battle.

Football offers many comparisons to military strategy. In this discussion of lineplay we are concentrating on one of the fundamentals of attack by the front-line troops—the linemen—which is to pull out of the line into the interference; secondly, we are going to consider the spearhead of the defense—the tackles and ends—who must lead the counterattack against the opponent's drive.

Our first problem is one of stance. Certain fundamentals must be observed, such as balance, comfort and the ability to move forward or to pull out of the line with equal facility.

We have our linemen take a semi-crouch (first picture, series 1) with one foot slightly in advance of the other. The width of the stance depends on the height of the man and what he feels is a comfortable position to start from. However, broadness of base should be emphasized for steadiness.

The second step (second picture) is to go into a more pronounced crouch. From this position the hand is placed on the ground with no appreciable shift of weight to the hand. The final position (third pic-

ture) should find the lineman with head and eyes up and on the man opposite him, with the head at a slightly higher angle than the tail. The position of the feet and the grounded hand is similar to a tripod. The other hand should be held in front of the chest with the arm resting on the thigh.

The real test of a proper stance lies in whether a lineman can charge ahead and drive out an opponent immediately in front of him or pull out into the interference without any appreciable change in stance.

If the lineman has to change his stance to carry out different duties he is "pointing." He gives the opponent an undeserved advantage by tipping off what he is going to do and where the play is headed. Linemen should be cautioned to take and maintain the same position at all times whether they are charging straight ahead or pulling out into the interference.

Most coaches consider the defensive tackles the keystone of the enemy's defense, as most plays are designed to either the inside or outside of that point. In any flanking attack, you must have men there to lead the attack and clear the way for the man with the ball. The most common way of doing this is by pulling linemen out of the line.

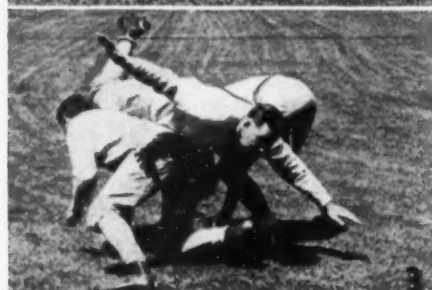
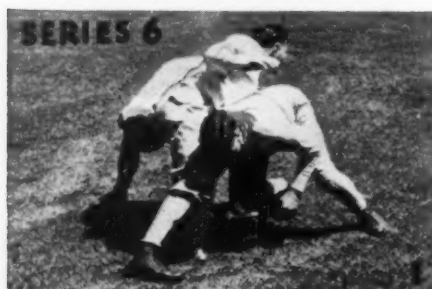
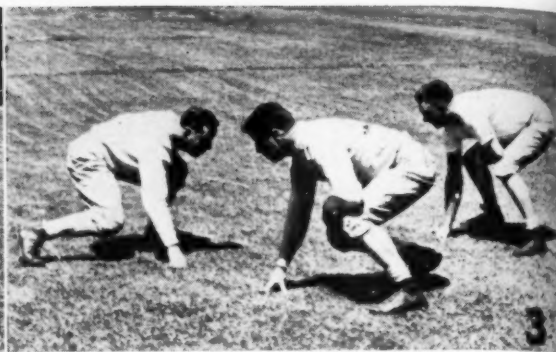
In choosing a method of pulling out certain fundamentals must be considered. First, the method chosen

must be one that will enable the man coming out to keep clear of the man next to him; second, it must guarantee him such steady footing that he will have a reasonably good chance of getting out regardless of the condition of the field; and thirdly, the method must utilize every movement to get him to the point of attack quickly and with a minimum amount of wasted effort.

In the actual operation of pulling out of the line the player must be drilled in making one coordinated move with his whole body on the first step he takes. The illustrations (Series 2) show a man pulling out to the right.

On the first step the right foot is brought out, over and back of the man on his right. There is no cross-over or pivot, thus assuring the man of a firm base. His head and shoulders swing out at the same time the foot is brought back. In other words foot, head and shoulders are all swung out in one continuous motion.

The left foot is used as a driving base and it is highly important to make the most of this drive. The common fault found in practicing this is that the head, foot and shoulders are not swung out in one continuous motion and the drive of the



back leg is not delivered simultaneously with this movement.

The advantage of this method is that the man pulling out is in running position the moment his right foot hits the ground and he is always progressing toward the point of attack. In other methods of attack, the foot usually is dropped straight back, thus losing valuable time in getting to the attack.

The running position after the pullout (Series 3) shows the man running in full stride with short driving steps. He is in a crouch with head and eyes up and on the man he is going to block. The arms are swung freely in a pulling motion with the forearms moving laterally across the chest. The feet are kept well apart to provide a wide base in the event he is bumped. In this way he will not easily be knocked off his feet.

Defensive tackle play

The defensive tackle is the key-point of defense. He is called upon to protect an area inside and outside the focus of the opponent's hardest drives. A good tackle must be the most active and aggressive man on the defensive line. As the tackles go so does the entire defense or counterattack.

The defensive tackle may line up in one of two ways. Some coaches prefer to have the tackle line up in a three-point stance (first picture, Series 4, for a left tackle) with the outside leg forward. This stance differs from his offensive stance in that

the weight is more forward and the rear foot farther back.

Another type of defensive stance is shown in the second picture. This stance, which is also used by some defensive ends, has the inside leg up and both hands off the ground. It does not permit as hard a leg drive nor as low a charge as the low three-point stance.

The actual deployment against an end and halfback (third picture) will vary, either in or out, depending on where the tackle feels he can best work. The stunts which follow may be used by a tackle taking his position either close to the offensive end or well outside of him.

The tackle must always remember that at the snap of the ball good hard leg drive is essential. Without good leg drive he will find himself powerless to carry through into the opponents' backfield. There is a good deal of trapping all along the line these days, and its primary purpose is to force the defensive linemen to slow up their charge.

A good lineman must keep charging, and through the help of good coaching, learn to adjust himself to check on trap plays.

The first stunt (Series 5) is a charge on the offensive end. (All this instruction applies to the defensive left tackle.) The left shoulder and left leg are driven between the end and halfback and the left hand is shot for the hip of the end. The main drive is supplied by the right leg which remains on the ground. As the charge is made the shoulders are turned at right angles

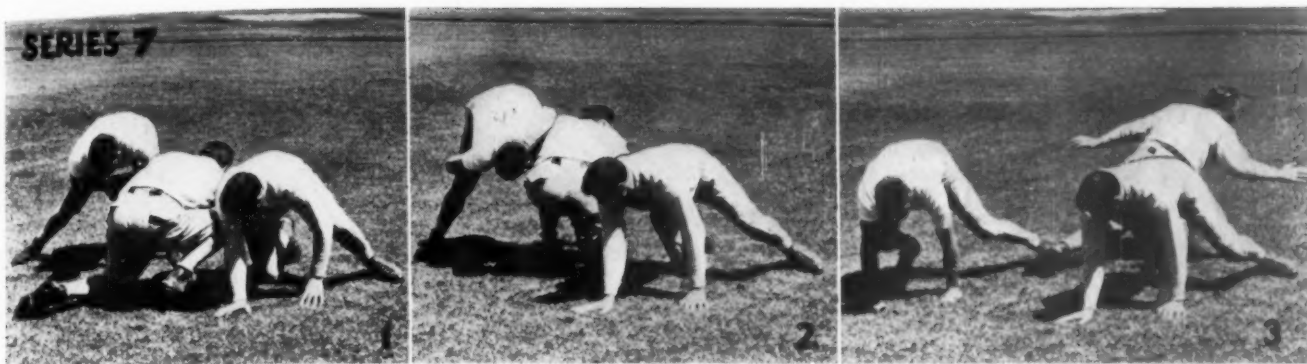
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to the original position in which the tackle lined up.

This brings the tackle across the line of scrimmage (third picture) in position to cover a play either inside or outside of his position. In many instances the halfback may get to his body. When this happens the tackle should not turn to fight him off, as this will expose his right leg to the end. He should continue his charge and "wipe up" on the halfback with his left arm (second picture). Under no circumstances should the tackle wrestle with the end and halfback or grab at their equipment. Jerseys and pants have a certain amount of "give" or stretch, which makes an attempt to move men in this manner a waste of time and energy.

There will be times when the end and the halfback will have a good charge and get to the tackle's body and pin him. In this case (Series 6) the tackle must use the "limp leg" and go over the top. To stand and try to fight these men off is useless. The "limp leg" technique is very useful. Tackles who combine it with their regular charges are very hard to handle. The tackle who has developed a good leg charge and who knows when to use the "limp leg" is a good man to have on your side.

In the third picture the left leg is used as a springboard while the right leg is "limped."

Another type of defensive charge used by good tackles is a hard low drive between the end and halfback (Series 7). This is effected by driving off with the inside leg and

using a shoulder lift on the end (first picture); the outside leg is then brought up and a shoulder lift used on the halfback (second picture). This is a right-to-left motion made very rapidly while the tackle is moving forward. Keep in mind that this is a charge with a lift.

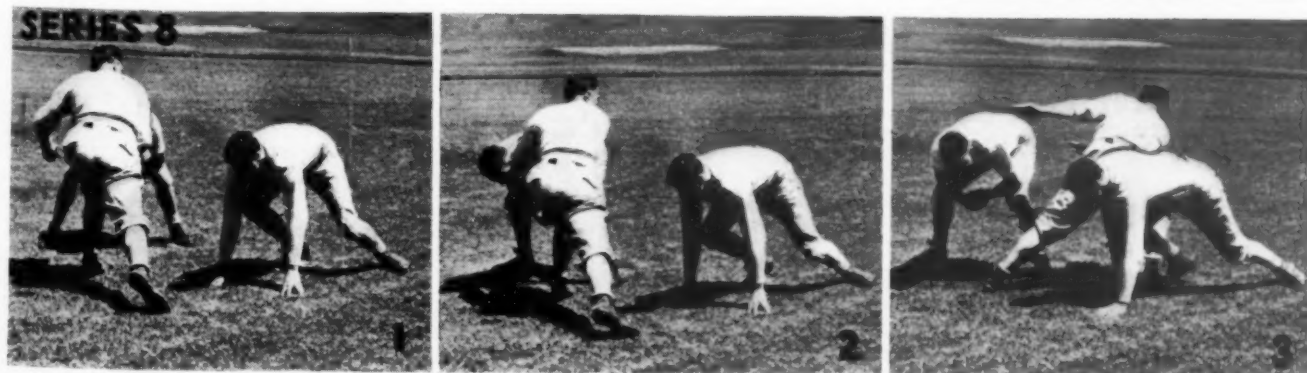
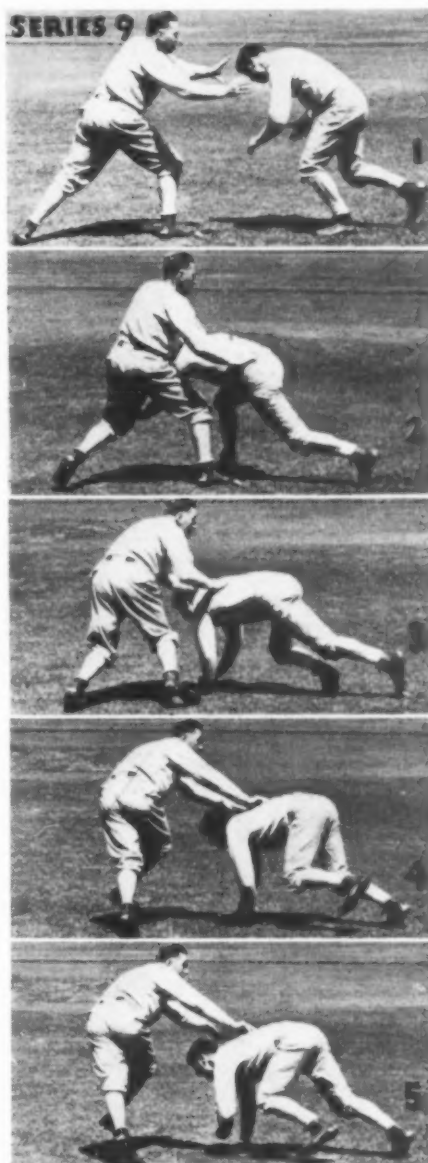
It should be noted that after the lift is used on the end the inside leg is straightened on the drive into the halfback, and the outside leg, which is up underneath the tackle, is used as a leverage for the lift on the halfback. In this charge the tackle must keep his head and eyes up watching for the play. Defensive tackles who bury their heads are no asset to any line.

The third stunt in this series is rather tricky and difficult to work. It is more or less the icing on the cake and is not essential to learn. I have seen some excellent tackles who mastered this charge and were very hard to handle because of it (Series 8).

This is a charge on the halfback, a little to his outside with a side-swiping motion on his shoulders with the forearm. The first big step is taken with the outside leg. The inside leg, after the original charge, is "limped" to the end (second picture) so that the weight and drive is shifted to the outside leg. Even though the charge is originally to the outside the finish is at the same spot as the other two charges (third picture).

Each year finds more and more emphasis being placed on the trap-

(Concluded on page 38)





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with skived edges.

The ball of caliperperfect roundness.

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One of the revolutionary features that make this great ball the favorite of coaches and players.

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From Coaching School Notebooks

Bill Kern

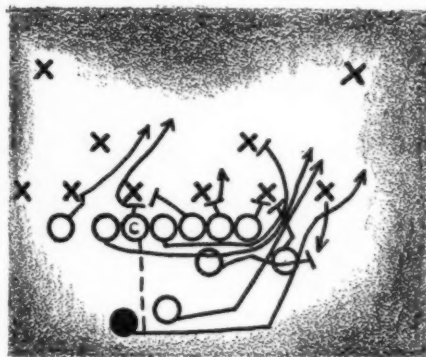
Reported by Floyd Schwartzwalder
McKinley H. S., Canton, O.

WHEN it comes to precision, speed, power, and timing, the Pittsburgh system as developed by Dr. John B. "Jock" Sutherland and utilized by his former pupil and line coach, Bill Kern, has no superior and few equals.

Big, bluff Bill, now coaching at West Virginia University, is the dynamic, "perspiring" type of coach who lives and breathes the game of football. He talks fast and to the point and will roam all over the field to illustrate a stance or a certain type of charge.

At the coaching school conducted on his home grounds, the Mountaineer coach dipped generously into a storehouse of information filled by fifteen years of playing and coaching. He revealed in complete detail his basic plays and the way he ran them off against various types of defense.

Kern operates from a single wingback formation with an unbalanced line and the weak-side end split out a yard. The wingback is a yard out and back of the end and the quarterback a yard back and normally between the tackles. His position varies according to the play.



Diag. 1, Off-Tackle Play

The fullback lines up four yards directly back of the right guard, while the tailback is a half yard farther back in the seam between the center and the left guard. Although these men may vary their positions on different plays, they maintain the same relative positions.

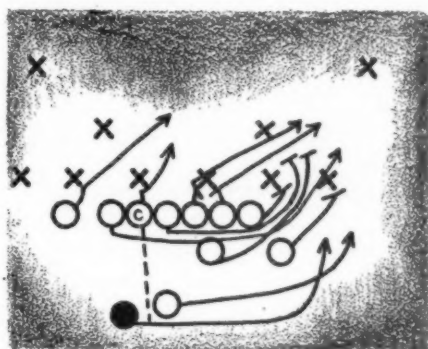
With the exception of the outside tackle, right end and center, the linemen assume a stance with the right foot back. The outside tackle

and the end keep the left foot back, while the center's stance naturally varies with the formation.

The men with the right foot back pull out mostly to the right; the others to the left. Each guard's right foot is deep. The tackles' and the ends' feet are on a more even line. The backs' feet are even, their tails up and the right hand resting lightly on the ground. The linemen also keep their tails rather high, as they have to bring them up anyway when they charge.

Blocking in the line is almost entirely of the shoulder type with a definite number of counts. The nearer the linemen are to the point of attack the longer the count and the more vicious the contact.

In pulling out, the linemen use a peculiar crossover step. They pivot on the back foot, then swing the other foot over and to the rear.



Diag. 2, End Run

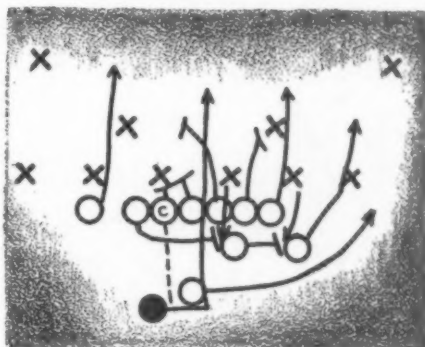
The off-tackle play (Diag. 1) has been the meal ticket of the Pitt attack since the days of Pop Warner. The quarterback is instructed to call it when in doubt.

The left end checks the defensive right tackle for two counts and then goes for the right half. The left guard pulls out and angles through the hole for the other defensive half. The center holds the defensive right guard for two counts and continues on to get the safety man.

The right guard comes out and smacks the defensive fullback to the inside. He pulls out on a 45-degree angle, taking a full crossover step which brings him a yard and a half deep into the backfield. He then takes three steps parallel to the line (right-left-right) and pivots abruptly so that he faces squarely into the hole. The pivot is taken on the right foot and the first step into the hole is with the left foot. The left guard

employs the same first three steps, including the crossover, but then angles into the hole.

The inside tackle slides over on to the defensive right guard, checks for three counts with the center and then goes through for the defensive center. The outside tackle curbs the defensive left guard for four counts and goes downfield.



Diag. 3, Cutback Over Guards

The right end shoots in front of the defensive left tackle and stops his charge with a body block, getting his head on the outside of him. As the end throws this pinch block, the wingback feints at the defensive end with a short step and then comes back to drive into the tackle from the outside, contacting him high and driving him inside.

The fullback takes a cross-step parallel to the line of scrimmage, then angles to the outside of the hole to lead the play, taking the first man in his path. The quarterback cross-steps toward the line and continues along it to cut down the end. If the end is shallow, he gets him with a shoulder block. If he is deep, with a reverse body block.

Beginning with a crossover step, the tailback takes four steps to his right and cuts straight into the hole behind the fullback.

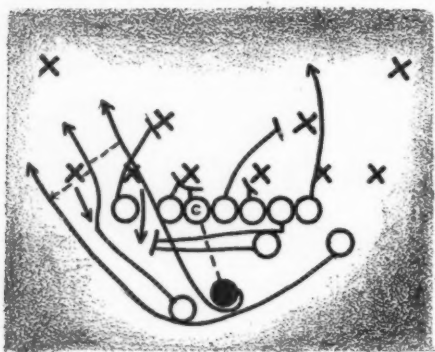
Against a five-man line, the wingback fakes at the defensive left end and swings inside him to get the outside backer-up. The guards and the fullback again lead the play. Kern believes that the off-tackle play is most effective against five-man lines, as it puts more pressure on the secondaries.

The end run in Diag. 2 is not used as often as the off-tackle play but usually gains more ground when set up properly. The left end, the guards and the center make their move the

same as they did on the off-tackle play against a six-man line.

The tackles merely screen the defensive left guard and angle downfield toward the left half. The right end clamps a long body block on the defensive left tackle, while the wingback steps into the end and takes him in with his shoulder. If the end drifts, the wing may drive him to the outside.

The quarterback fakes at the defensive left end and helps the right guard with the defensive fullback. He may also assist the wingback with a drifting end.



Diag. 4, Spinner to Weak Side

The fullback leads the tailback, taking eight steps parallel to the line and then cutting up the field. The ball-carrier gets a two-yard lead on the ball, takes eight steps and cuts inside the fullback leading the play.

When the opponents are set up in a five-man line, the tailback takes only six steps before cutting. The inside tackle takes the center backer-up and the quarterback the outside backer, taking him anyway he wants to go.

In **Diag. 3** Kern lures the defensive left guard in, mouse-traps him and runs a cutback play over the guards. The left end screens the defensive right tackle for two counts, and continues downfield for the defensive right half. The left guard pulls out and closes the trap on the defensive left guard with a shoulder block, riding him to the outside.

In the backfield, the wingback fakes at the end and cuts inside him toward the left half. The quarterback screens the defensive left tackle to the outside, while the fullback races eight steps and up as on the end run to the right. The tailback takes two steps and cuts up between the defensive guards.

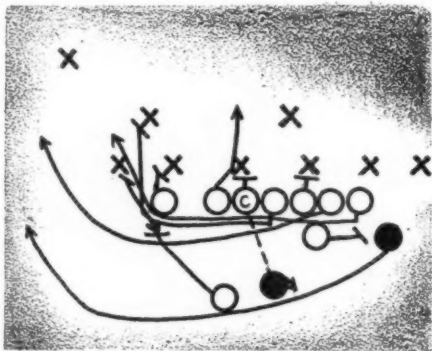
When the spinner in **Diag. 4** is run off correctly, the defensive end should not be able to see who gets the ball. The left end drives the defensive center to the inside, while the center and left guard are double teaming the defensive right guard.

The other guard goes right through to drive the defensive fullback to the outside.

The inside tackle screens the defensive left guard, and the outside tackle pulls out to join up with the quarterback on a shoulder-to-shoulder double team on the defensive right tackle.

Meanwhile, the wingback is faking for the ball and swinging out wide. He trails the ball-carrier in position for a lateral. The tailback fakes at the defensive right end and sprints downfield to mow down the right half. The fullback receives the ball on his right hip, steps across with his left foot, fakes to the wingback, and continues spinning. He swings his right leg across to the right in the direction of the hole and rams inside the defensive right tackle.

Against a five-man line, the double teamers work on the defensive right end. The left guard swings out on the outside for the short-side backer-up, the center goes straight down for the center backer-up and



Diag. 5, Deep Reverse

the right end screens the outside backer-up and continues on for the left half or safety man.

The fullback now spins in more shallow fashion. To angle into the hole properly, he must take a shorter step with his right foot.

The famed Pittsburgh short-side deep reverse is outlined in **Diag. 5**. The wingback is in motion on this play in order to receive the ball with the least possible delay.

The left end hits the defensive right tackle to the inside, the left guard screens the defensive right guard for one count and drives for the defensive fullback, the center pins the defensive right guard, and the right guard pulls out to race inside the end for a crack at the defensive center.

The inside tackle screens the defensive left guard, while his teammates at tackle and end are coming out. The outside tackle pulls out deep and swings wide to the outside for the right half. The end pulls out

more shallow, merely clearing the line and cutting up inside the end. He looks for the defensive center or the safety.

The quarterback fakes to the strong side, screening the defensive tackle and preventing him from breaking up the play from the rear. The tailback drives straight at the defensive right end, slipping his head to the outside and driving him in with the right shoulder.

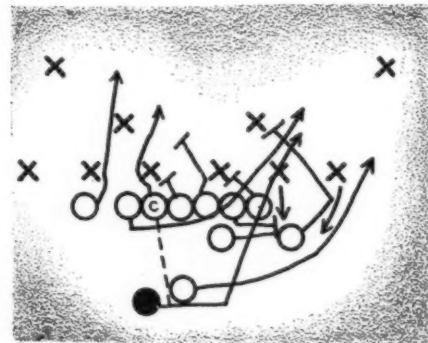
The fullback gathers in the snap, gives it to the wingback and continues spinning, keeping low and carrying out the fake. The wingback swings out wide with the outside tackle as a personal escort.

If the short-side end and tackle are playing wide or are drifting with the play, it is a simple matter to adjust some of the assignments and run the reverse inside the end.

In this contingency, the tailback shoulders the end to the outside, and the inside tackle checks the defensive left guard for three counts and goes for the safety. The wingback, after receiving the ball from the fullback, continues as if to go wide but cuts abruptly into the hole inside the end. Upon clearing the line, he fans to the outside.

The assignments in Kern's inside tackle play (**Diag. 6**) are much different than those of his off-tackle smash. Only the men on the short side of the line have somewhat the same functions.

The left end three-count checks the defensive right tackle and then goes through for the right half. The left guard pulls out just clearing the



Diag. 6, Inside Tackle

scrimmage line. On the second step he starts angling into the hole and down toward the left half. After acting as a post on the defensive right guard for two counts (setting him up for the right guard), the center goes through for the safety.

The inside tackle checks the defensive left guard for one count and continues on to block out the defensive center. The outside tackle pivots and steps back with his right foot. The quarterback steps forward with his left foot and together, shoulder to

(Continued on page 34)

THERE'S STILL TIME

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THE popularity of *lighted* football fields has been proved in hundreds of schools and colleges where attendance at games has been increased two, three, and four times.

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Study the lighted fields near you; ask the coach and players how they like playing under lights; talk to the athletic directors about increased attendance—then start a workable program to light your field. For the average high school and small college, Class C

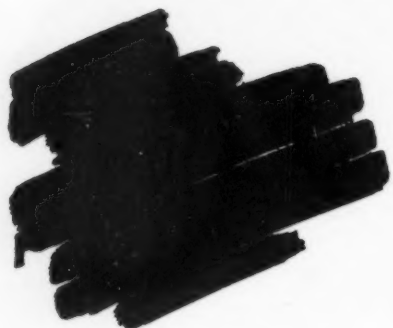
lighting is ample; for larger schools where play may be faster and a large number of spectators may be present, Class B or A lighting is recommended.

But, whatever the classification, the service of General Electric is threefold—a complete line of equipment, helpful on-the-job recommendations from lighting specialists, and quick-action service to keep your lighting system up to par. Bring your lighting problems to lighting headquarters. There is no obligation. Get in touch with the nearest G-E office, or write to General Electric, Schenectady, New York.

	CLASS A			CLASS B			CLASS C			Minimum installation for low cost project
	For fields accommodating several thousand spectators			For the better-than-average installation			For the average high-school and small college			
Distance in feet from poles to sidelines of field	30 or less	30 to 75	75 to 120	30 or less	30 to 75	75 to 120	30 or less	30 to 75	75 to 120	30 or less
Number of 1500-watt flood-lights recommended	80	80	84	60	64	60	40	40	42	32
Total number of poles (Half on each side of field)	10	8	6	10	8	6	10	8	6	8
Total connected lighting load in kilowatts at 10 per cent overvoltage	139	139	146	104	111	104	70	70	73	56

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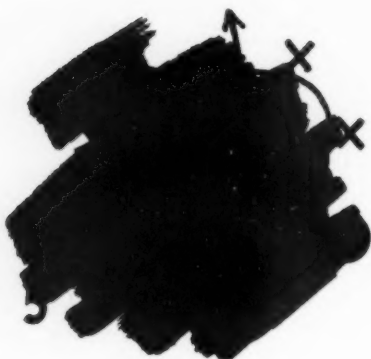
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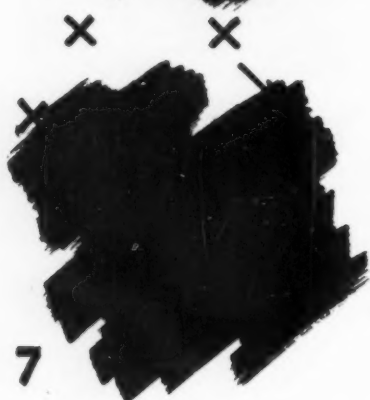
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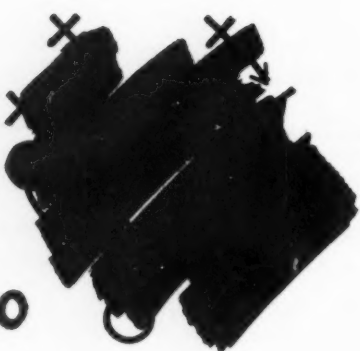
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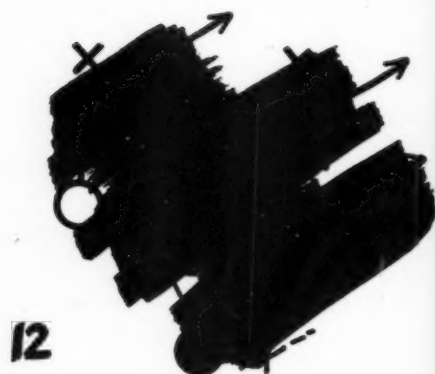
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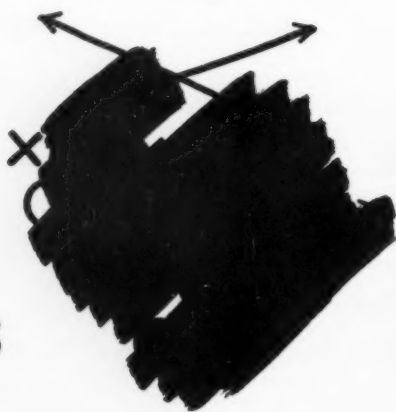
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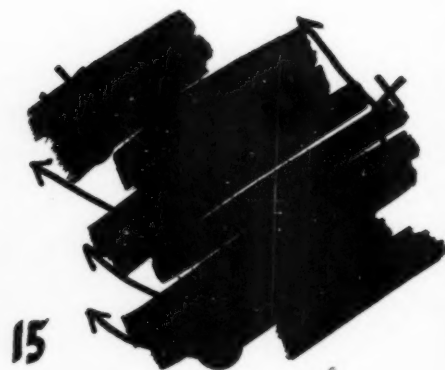
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SIX-MAN SINGLE WING SPINNER ATTACK

By Ralph H. Gress

Ralph H. Gress coaches six-man football at Chattahoochee, Fla., High School. His team last year was a claimant to national honors. In winning the state and Southern championship laurels his team rolled over 12 opponents for 627 points—an average of over 52 a game! Mr. Gress outlines his blitzkrieg spinner offense.

ONE of the brightest signposts along the road to progress in six-man football is the tremendous technical improvement in the offense. With regular football tacticians moving in all the time, the wide-open, fundamentally-un-sound six-man attacks of the past are fast disappearing. While there is yet no dearth of bizarre attacking formations, the average six-man offense is now hewn closely along 11-man lines. Six-man coaches have already adopted the single and double wing, the T and other standard offenses.

Chattahoochee last season went one step farther, modifying its single wing to incorporate a tricky but well-balanced spinner attack. In 12 games we rolled up 627 points—an average of over 52 a game!

Following are a number of our basic plays. Although they're run to the right in the diagrams, they may be run to the left just as easily.

Basic plays

Diag. 1 outlines the basic single wing from which the plays are run. The ends fan out two yards from the center, in a three-point stance. The No. 1 back takes his stance behind the center with his right foot in back of the center's left. The No. 2 or wingback lines up a yard to the rear of the right end with his left foot on line with the end's right. The No. 3 or tailback deploys three yards directly back of center.

All the backs assume semi-crouched stances with their hands resting on the knees. The blocking is mostly man to man.

When a quick-opening play is needed, the simple line buck in **Diag. 2** may be used to good advantage. The left end shoulder blocks the opposing end and then goes after the backer-up. The No. 1 and No. 2 backs precede the ball-carrier and block as indicated.

The basic spinner play is illustrated in **Diag. 3**, with the No. 3 back faking to the wingback and spinning into the line.

The natural offshoot of this play, a reverse with a fake spinner, is shown in **Diag. 4**. This time the ball is actually handed to the wingback. After running the play between end and center a few times, the quarterback may cross up the defense by sending the wingback out wide. The ruse depends, of course, on how the defense is setting up; whether they're playing a tight or a loose line.

Diag. 5, a reverse pass, serves as a check play when the defense starts coming in too fast. A pass from this reverse, even if incomplete, warns the defensive backfield to hold their places, thereby helping the running plays. After receiving the ball from the tailback, the wingback fades and rifles the ball to the right end crossing over.

Another check play to keep the defensive backs from rushing the spinning back is the spinner pass in **Diag. 6**. In this contingency the tailback fakes to the wingback, completes his spin and leaps into the air for a short bullet pass over the line of scrimmage to the left end.

If the defensive backs are playing up close, the end goes behind them. Otherwise he cuts in front.

The center spinner in **Diag. 7** was not used during the regular season. We pulled it out of the hat during the Southern championship game with Lebanon Junction, Ky. The opponents were completely baffled. After getting the ball from the quarterback, the tailback faked a buck into the line and slipped the ball to the center coming back. Led by the quarterback and wingback, the center raced wide around end.

The regular end run (**Diag. 8**) is an excellent weapon to throw against the opponents when they start tightening their line to stop the spinners. The tailback receives an underhand flip from the quarterback on the run and tears around end behind fine interference.

Shovel passes, we have found, are particularly effective weapons to incorporate in a weak-side attack. In **Diag. 9** the wingback shuttles to his left for the shovel from the tailback. The latter trails the play for a possible lateral.

As in the eleven-man game, the end around (**Diag. 10**), when used judiciously, is a good ground gainer. The quarterback, after receiving the snap, turns and hands the ball to

the end who circles the opposite end behind the tailback and wingback. The quarterback's responsibility after passing the ball is the blocking of the defensive right end, preventing him from dragging the ball-carrier down from the rear.

A good triple reverse is a fine play anytime. Against a tight defense, it is sudden death. After running a touchdown around them with this play, you will teach them to hold their distance; again taking pressure off the spinners. It is interesting to note in **Diag. 11** that the quarterback starts and finishes the play. First he underhand passes back to the tailback who spins and gives to the wingback coming around. The latter runs a few steps and slips the ball to the quarterback.

Diag. 12 shows a good way to beat a zone defense. As in basketball, one zone is overloaded. The right end goes deep into the flat on his right while the wingback goes out shallow. The latter is the logical receiver. Note that the passer receives the snap indirectly, taking it from the quarterback. Thus, if he is cut off or cannot find an open receiver, he may run with the ball. This play may also be converted into a running pass as a check for the end run.

Our best pass against a man-to-man defense is outlined in **Diag. 13**. The reason it works so remarkably well is that few coaches have adopted the combination pass defense that is used in the 11-man game. The ends simply cross while the wingback goes out into the flat.

Punt formation

During the game every team has occasion to use a punt formation. The remaining diagrams outline a few good possibilities from this formation. In our punt formation (**Diag. 14**) the ends play four yards out from the center. The No. 1 and No. 2 backs deploy two yards back of the holes, while the kicker ordinarily lines up nine to ten yards back of the center.

The position of the punter is determined by the speed he gets his kicks away. Every kicker should be timed. I played my kicker, Captain Gholson, only eight yards back due to his speed in getting the ball away.

The ends go straight down after
(Concluded on page 55)

EXERCISES FOR FOOTBALL PLAYERS

By A. Baumgartner and L. E. Morehouse

A graduated program of conditioning and warm-up drills for use before and during the season

Dr. Laurence E. Morehouse serves as assistant professor and director of physical education at the University of Wichita. His collaborator, Albert Baumgartner, is assistant professor and head gymnastics coach at the University of Iowa. A previous cooperative effort of theirs, on conditioning and warmup exercises for track, appeared in last April's "Scholastic Coach."

THERE is no conditioning procedure which can prepare an athlete for combative sports overnight. In strenuous, body-contact sports like football, it takes a few weeks of pre-season conditioning work, embracing a graduated program of strength and flexibility exercises, to gird the player for the rigors of competition.

Many high school football leagues impose an additional hardship on the coach by setting a time limit on pre-season training. A great many of these leagues give the coach as little as two weeks in which to prepare their boys for the first game.

As coaches have all they can do to install their offensive and defensive systems in this time, what are they to do for a conditioning program? The solution lies in conditioning the boys *before* they report for training. Sometime during the summer or perhaps during the weeks prior to the first call, each prospective candidate may be given a series of preparatory conditioning exercises. Thus, by the time practice rolls around, they should be in good shape.

The first group of exercises which follow are designed for this purpose. They are grouped according to playing position. If the coach is uncertain as to the exact position he will place various players, he may give the boys a combination of exercises.

Preparatory Exercises

Ends. 1. From a front leaning rest with hands about one-half arm length ahead of shoulders and shoulder-width apart: Flex arms so that elbows touch ground, forearms parallel with body; then extend arms to starting position and repeat.

2. Standing with legs slightly apart, forearms forward with fingers pointing upward and slightly inward: Fall forward and land on hands, flexing arms slightly to catch fall.

3. From a front leaning rest with hands directly below shoulders,



The Front Leaning Rest, base for many popular football drills.

shoulder-width apart, resting on fingertips: Flex arms until chest almost touches ground; then extend arms to starting position and repeat.

4. From a deep knee bend: Alternately, left and right, place leg forward, sideward and backward.

Tackles. 1. Two men face each other, hands clasped, feet of one man between feet of other: Against resistance of partner who remains standing, the other lowers himself slowly to sitting position with legs straight and then to supine position; the standing man slowly gives, bending trunk forward and lowering himself into a front leaning rest on other man's hands; from this position, either one at a time or both together, they flex and extend arms; after several flexions and extensions, top man pulls other up and they change positions.

2. From a deep knee bend: Walk forward and backward with alternate trunk bending sideward right and left.

3. From supine position, hands on hips: Slightly raise trunk with head loosely hanging backward.

Guards. 1. From a deep knee bend with hands on ground outside knees and near toes: Extend knees sharply, palm of hands remaining on ground.

2. From a wide-walk position with hands on ground, body erect: Alternately flex and extend arms so that body lowers and rises with arm movements.

3. Bending trunk forward and placing hands in front of toes, knees remaining straight: Take small steps

forward and backward on hands and feet.

4. Standing with legs apart, right hand on head, left on hips: Bend trunk to left, both hands assisting with powerful pressure; repeat to right with change of hand position.

Centers. 1. Standing with legs wide apart, hands grasping ankles from behind: Flex arms and pull trunk downward until head is between legs and near ground.

2. Standing with legs apart, knees slightly flexed and hands on knees: Flex knees inward so that they touch each other; repeat at least 20 times.

3. Standing with legs apart, right knee flexed, hands on hips: Vigorously change knee flexion from one leg to other; repeat about 20 times.

4. Standing with legs apart, hands extended upward: Rotate and bend trunk to right, return to starting position and then rotate and bend trunk to left; keep knees straight.

Fullbacks. 1. With right leg backward: Swing thigh forward to a horizontal position, then drive the leg forward keeping toes back; repeat several times.

2. From a supine position with right leg flexed and sole on ground: Raise left leg, grasping ankle with both hands, and pull to chest; then extend right leg.

3. From a supine position with legs raised backward, toes touching ground behind head, legs straight and arms overhead: (a) Swing legs forward, (b) Raise and bend trunk forward, grasping feet, (c) Return

(Continued on page 20)

NETS — *for tennis*



CHAMPION has everything. To assure clean top binding when net is hung, Champion is protected by paper. A colored string has been provided on each side of the paper for removing this protector. After erecting net merely start at either end and pull both strings down and along each side cutting paper at the top stitches.

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to starting position and repeat.

4. Standing with legs apart, left knee flexed, trunk bent loosely to left, right arm hanging over head, left arm down along side: Change knee flexion from left to right, swinging trunk to right and reversing position of arms.

Halfbacks. 1. From a prone position with legs drawn back, grasping the ankles: Rock forward and backward.

2. From a knee bend position with hands on ground between knees: Extend right leg backward and swing it forward without touching ground; repeat with left leg.

3. From a supine position with arms on side of body: Raise trunk and legs vertically until body rests on neck; then alternately, left and right, swing legs back until toes touch ground.

4. From a supine position with toes touching ground behind head, arms parallel to body: Open and close legs snappily.

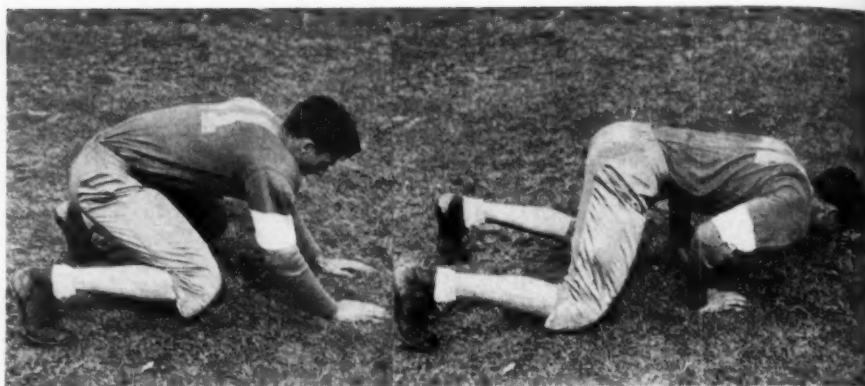
Quarterbacks. 1. From a sitting position with legs extended: Grasp right lower leg with both hands and pull it to chest, keeping legs and back as straight as possible.

2. From a supine position with legs raised a hand-breadth from ground: Alternately, left and right, pull knee to chest with help of hands.

3. From a front leaning rest: Hop forward with legs to straddle stand and return.

Conditioning Exercises

The conditioning exercises that follow are grouped according to function. The four main groupings cover: arms and shoulders, knees and legs, abdomen, and ankles and feet. With two or three exceptions, they require no apparatus.



ALL THREE EXERCISES illustrated on this page are designed for the conditioning of the arms and shoulders. The idea above is to flex the arms and push the trunk forward until the forehead touches the ground; then extend arms and return.

The exercises are designed for use throughout the season to supplement the work done in practice. The coach may select one or two exercises from each group for the drill. The drill may be used before each practice for both warm-up and conditioning purposes, and again at the end of each practice as a night-cap.

Players who are excused from practice because of minor injuries may perform the exercises in lieu of heavy practice. After the season closes, the exercises may be utilized as a means of detraining.

Arms and Shoulders. 1. Standing with legs about three feet apart and bending trunk forward to a horizontal position: Briskly rotate trunk, left and right, swinging relaxed arms in a vertical plane with special emphasis on movement of upper arm.

2. From a position on all fours with trunk parallel with ground and hands about seven or eight inches in front of knees: Flex arms and push trunk as far forward as possible until forehead touches ground. (See above illustration.)

3. From a front leaning rest with

forearms flat on ground and pointing straight ahead: Extend and flex arms. (See illustration lower left.)

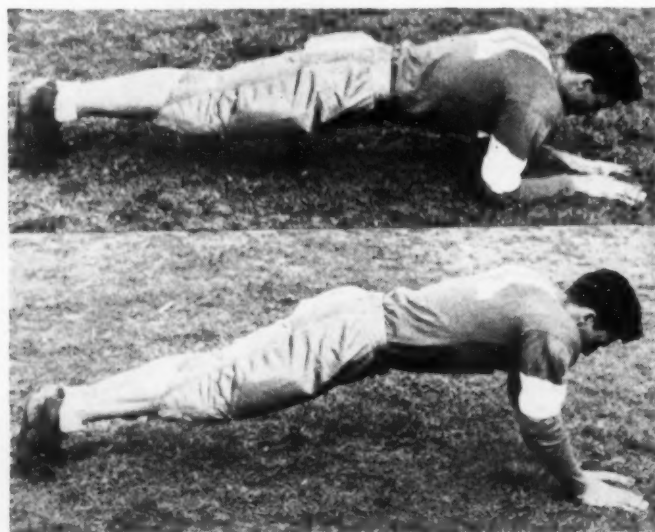
4. "A" lies on back with arms extended forward and upward; "B," standing close to "A's" feet and looking down at him, leans forward and places hands in partner's hands, keeping body straight: Both men flex and extend arms.

5. From a modified front leaning rest with thighs flexed under trunk and trunk leaning forward: Flex arms and stretch trunk, beginning with cervical (upper) spine, pushing chest forward close to ground: then extend arms, raise thighs, and push trunk back beginning with lumbar, or lower, spine) to starting position.

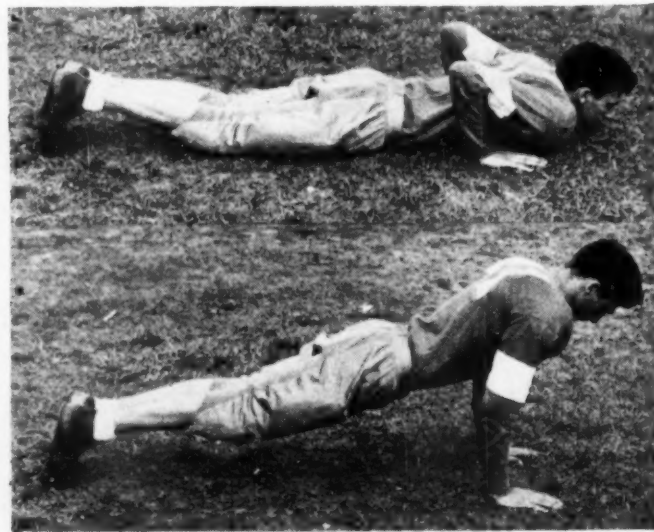
6. From a squat rest position with hands resting on ground outside knees and body inclined slightly forward: Jump forward about six feet, landing upon slightly inverted hands in original squat position; turn about and repeat.

7. "A" assumes a front leaning rest with legs apart; "B" steps be-

(Continued on page 22)



DIFFERENT THOUGH the basic positions in these exercises may be, they have the same function. Arms are flexed and



extended from a front leaning rest with the forearms flat on ground and from a prone position with hands near armpits.



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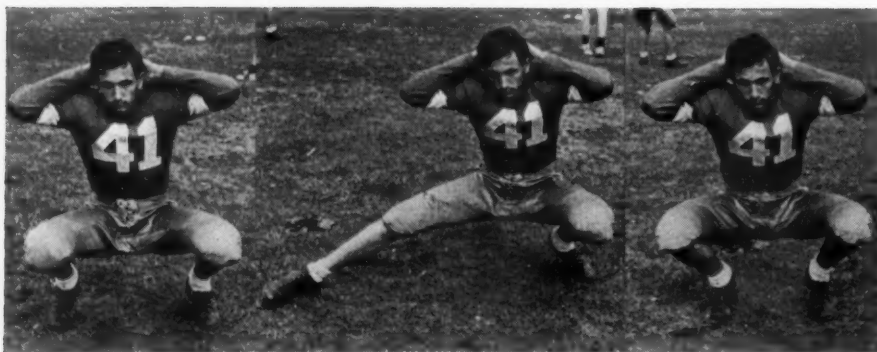
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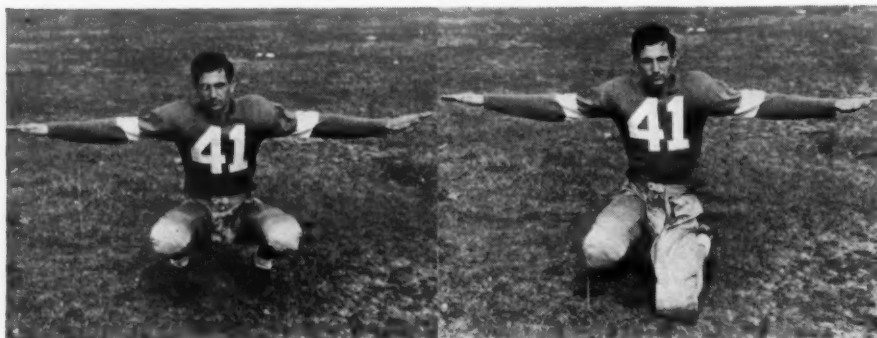
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TWO GOOD CONDITIONERS for the knees and legs are illustrated here. In the above exercise the athlete places his right leg to side, draws up other and repeats.



FROM A DEEP KNEE BEND position with his back straight and his arms extended the athlete touches the ground alternately with left and right knees.

tween "A's" legs and lifts them in wheelbarrow fashion: Bottom man (a) flexes and extends arms, (b) hops on hands in place, (c) hops forward and backward, and (d) walks forward.

8. From a prone position with hands on ground near armpits: Push body off floor and return. (Page 20.)

9. Keeping legs about two feet apart, trunk slightly bent forward and turned to right, with left hand on left thigh and right arm (with hand fisted) back and up: Swing right arm downward and forward in

pendulum fashion; then repeat with other arm.

10. Hanging from any horizontal bar, pipe or branch with feet off ground: Pull up until chin touches bar (chinning).

11. Raise a rock or a bar-bell of about 35 pounds alternately with left and right arms.

Knees and Legs. 1. Execute a loose, rapid knee-raising with alternate legs, keeping toes on ground. Increase tempo to highest possible peak and then gradually slow down.

2. "A" assumes a short walk-

standing position with trunk inclined forward; "B" jumps on "A's" back to a hipsitting position: "B" alternately flexes and extends knees.

3. From a deep squat position with knees well apart and hands clasped behind neck: Place either left or right leg sideward, draw other leg up close and repeat; as a variation place either leg sideward and shift weight from leg to leg in rhythm. (Illustrated on left.)

4. Raising thigh to a horizontal position with heel on or as close to buttock as possible: Rotate leg outward; repeat, alternating left and right legs; exercise may also be performed with leg extended straight out.

5. With legs wide apart, hands on hips: Raise left thigh to a horizontal position and then extend leg forward; alternate with left and right legs.

6. From a deep squat position with hands on hips: Place left foot forward and then right (duck walk).

7. Raise left arm and left leg forward, bend right knee and return. Alternate with left and right legs.

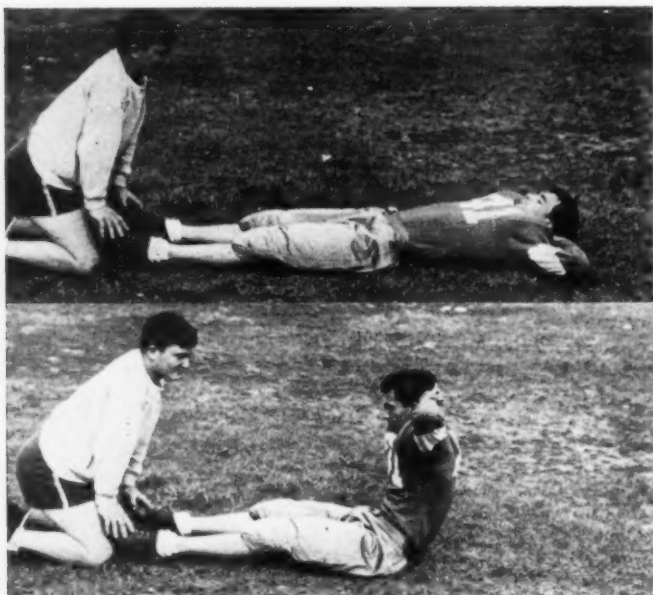
8. From a squatting position with arms extended sideward: Alternately touch ground with left knee and then right. (Illustrated on left.)

Abdominal Muscles. 1. From a supine position with hands clasped behind neck and feet held firmly by a second person: Raise straight trunk to a sitting position and return. (Illustrated lower left.)

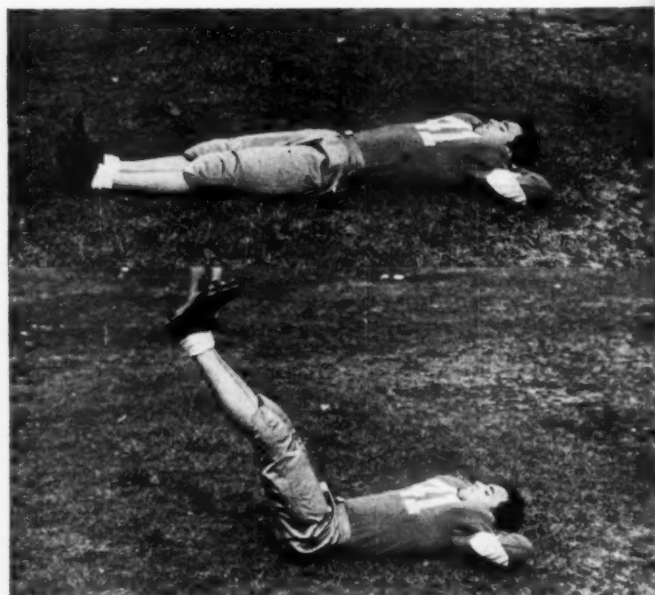
2. From a supine position with legs raised vertically against a wall and arms extended upward: Swing arms forward to touch toes and return.

3. From a front leaning rest with

(Concluded on page 39)

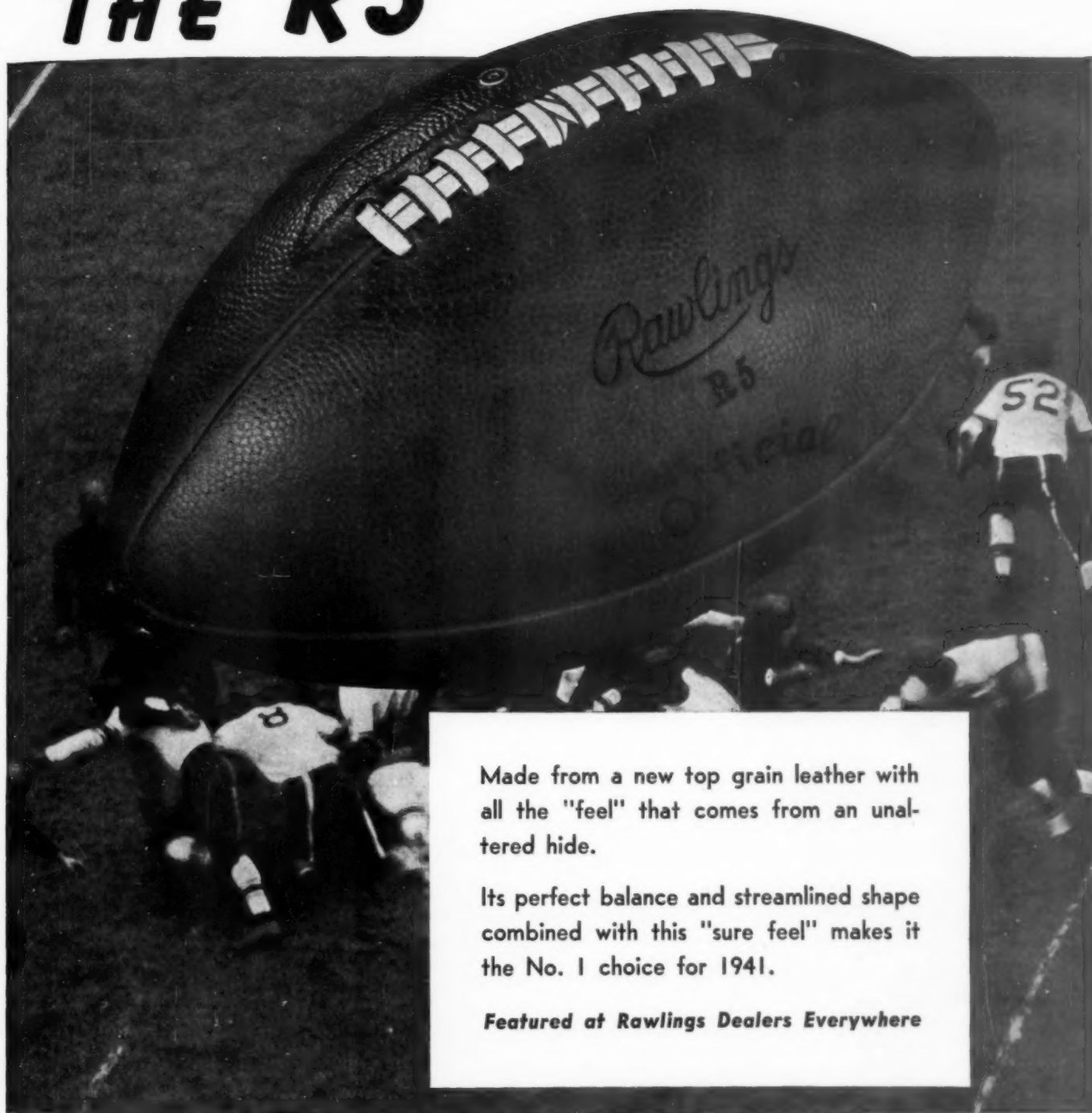


FOR ABDOMINAL MUSCLES: Pressure on these muscles may be applied by assuming a supine position and raising



the trunk off the ground (left), and by raising the legs and returning them to the ground to a very slow count (above).

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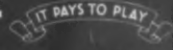
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"BLOCK THAT KICK"

By Stewart A. Cooper

When Stewart A. Cooper expounds a system of blocking kicks, he knows whereof he speaks. As an all-state end at Iowa State Teachers College, he made a habit of blocking at least one kick a game. After graduating he coached at Albert City, Iowa, High School for five years and then switched over to Roosevelt High School in Cedar Rapids, where he is still located.

FEW plays in football can change the complexion of a close game as suddenly as a blocked kick. Frequently it means winning the game. Always, when recovered by the blockers, it means a great gain of yardage. The average kick is good for about 35 yards. Thus, if you block and recover the boot, you have a defensive play equal in value to a 35 to 50 yard offensive play.

Despite such heavy premiums, few coaches spend much time on the art. What kicks their boys do block may be attributed to offensive lapses rather than defensive planning. Against well-organized kick formations, blocked kicks don't just happen. They must be forced.

The purpose of this article is to call attention to a few of the stunts that have been devised to get defensive men into the kicking lane. Rushing, of course, is the most elementary defense against the kicking game. The kicker's effectiveness is greatly decreased if he is hurried. His accuracy in angling the ball is destroyed and the distance is nearly always reduced. For this reason he should be rushed unceasingly.

The right end is in a particularly good spot to block kicks as he usually has only one protector to circumvent—the left halfback. He must know how to drive, feint, sidestep and outguess this man.

On midfield kicks early in the game, he should charge the protector with everything he has (see first picture on page 26). This forces the man to secure a good foothold to brace for the shock. When this type of charge is repeated several times, the blocker begins to think that the end has a one-track system of crashing the kicking lane—that of straight power.

By the time the ball comes to rest inside the opponents' 40- or 30-yard line, the stage is set for the coup. As before the end drives directly at the back, but this time just as the blocker is expecting the same old concussion, the end feints slightly to the right, throwing his weight onto the right foot, and sideslips up

the middle to block the kick (second picture). The element of timing is all important. In the picture the end is about two counts late. His footwork, however, is excellent.

The right tackle also is in good position to block some kicks. Obviously his job is to outguess his opponent and drive up the middle aisle. Head and shoulder feinting plus footwork, coupled with the correct use of the hands, are the key weapons in a tackle's arsenal. A sudden change of tactics is vital to the success of his plan, no matter what kind of trick he uses. The tactics employed will vary with the individual. The coach must determine the maneuvers best suited to each lineman.

What has been written of the right end and tackle applies to the left end and tackle as well, although their tasks admittedly are more difficult. However, this doesn't mean they shouldn't be in there working, as many kicks are blocked by going through the strong side.

Two on one

Many of the most successful blocked kicks are based on the principle of doubling up somewhere, one man pulling an offensive opponent out of position while another goes through the opening to get in front of the kick. The third picture illustrates one of these coordinated efforts. While the stratagem requires smooth timing, it is far from difficult. Yet I have rarely seen it tried. When executed properly, the results are devastating.

As a build up for the stunt the defensive guards, or one guard and the center if a seven-man line is used, keep driving the opposing center backward. At the right moment, the plotters change their tactics. On the snap the defensive center grabs the opposing center over the armpits and quickly propels him forward and to the side. At the same time the right guard gives his man the same business. This leaves a hole for the fullback, who has taken his position just before the snap, to jump through and run straight up the lane.

Some coaches work this stunt a little differently. They instruct their linemen to step well forward with the inside foot, placing it as far under the offensive man as possible, at

(Concluded on page 27)

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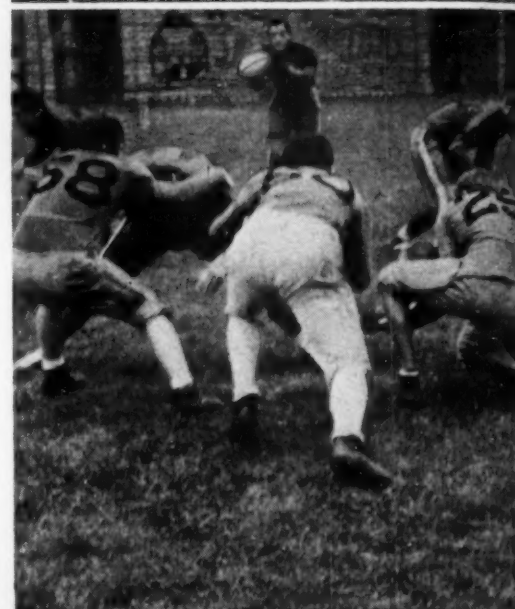
1 (Above) The Build-Up: Only one man, the left halfback, stands between the right end and the kicker. Before attempting to circumvent this blocker, the end throws dust into his eyes by ramming straight into him a few times.

2 (Upper Right) The Denouement: As before the end charges the halfback, but this time he throws his weight onto the right foot, pushes off the blocker and slips up the middle. Execution here is excellent; timing, unfortunately, late.

3 (Right) Triple Entente: The center and the right guard cleave the enemy line by propelling their men to the side; as the breach opens the fullback, who has jumped into position a moment before the snap, dashes through and tears up the kicking lane.

4 (Lower Right) Doubling Up: The right tackle, No. 60, decoys the blocking back out of position by feinting to the right; thus clearing the center alley for his running mate, the end, No. 58.

5 (Below) The Actual Block: To protect his face and at the time assure a good rebound, the charger should cross his arms in front of his face and attempt to catch the ball on his chest. In this instance the blocker presented his side rather than chest to the kicker; thus, the ball, instead of hitting the chest and caroming, struck under his arm and bounced downward.



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the same time grasping the opponents behind the armpits. The linemen then merely sit back, pulling the opponents forward and laterally on top of themselves.

There is a definite technique to the actual block. As the charger closes in on the kicker, he should cross his arms in front of his face. The idea is to take the ball on the chest, letting it serve as a "bank-board" for a carom back into enemy territory (fourth picture).

Another very effective way of blocking kicks is for the right tackle and end to gang up on the single back protecting the kicker. The end takes his position close to the tackle and a little behind him (fifth picture). With the snap of the ball, the tackle pushes his opponent to the inside and drives at the back. By suddenly shifting to the right he decoys the back out of position, making way for the right end. The end delays momentarily, crossing in behind the tackle for a thrust up the middle.

If the tackle is unsuccessful in warding off his opponent in the line, or is too slow to team up with the end, a back may be brought up beside the tackle for the play. The man serving as decoy is responsible for any surprise move to the outside, such as an end run.

Backfield checks

The defensive backs should always know when something special is to be tried so that they can provide a measure of protection. For instance, if the right side of the line is weakened through some unorthodox stunt, the backer-up and the right half must be ready to cover quickly. The left guard may also help out by making his initial charge and moving to the right if necessary.

The techniques used in blocking punts apply, of course, to place or drop-kicks. In blocking the latter, there is another stunt as well; that of diving. To make the dive effective, especially from the right end position, the final effort must be preceded by several low contact charges. This tends to bring the blocker down low enough so that the dive is practical. In completing the stunt, the arms are thrust forward and the body turned so that the chest falls into the path of the ball.

The writer has seen two attempted place kicks blocked in one game with this method. The advantages of the dive are twofold: it helps the end cover the last two yards in double-quick time and it possesses the element of surprise.



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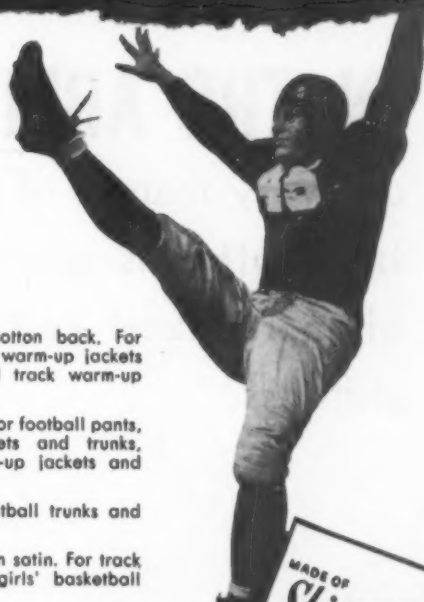
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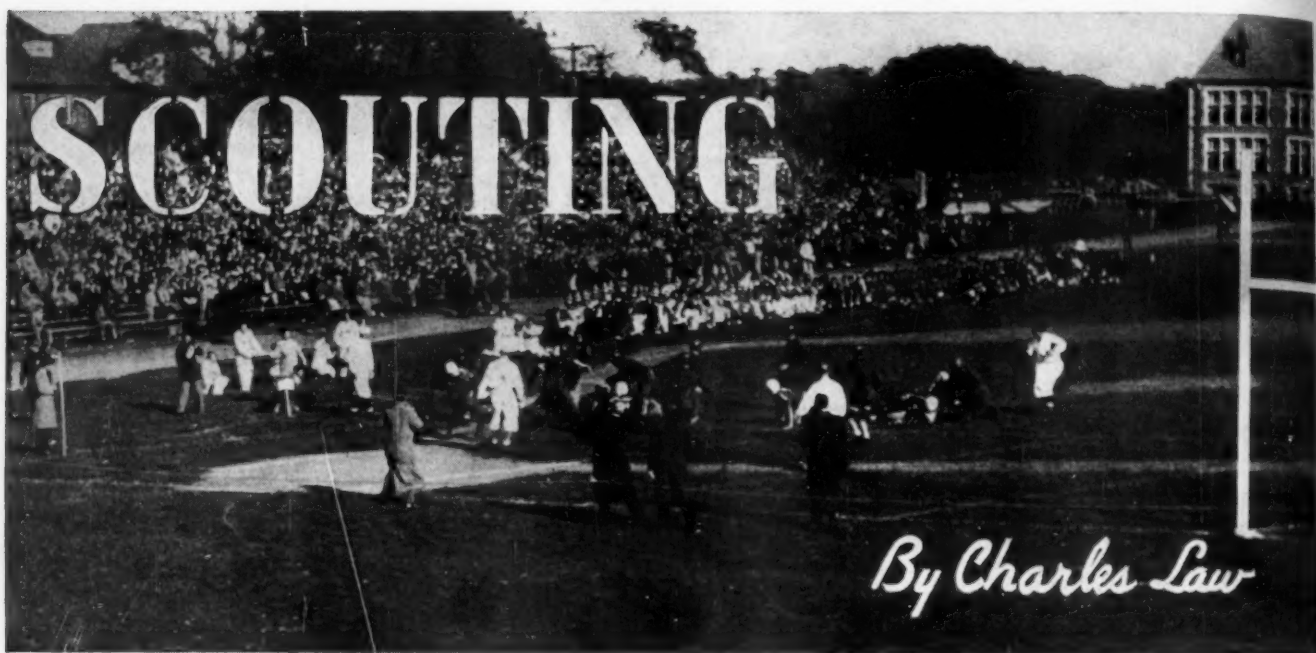
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Charles Law is assistant director of physical education at the Melrose, Mass., High School, and a football scout on the side.

FOOTBALL players and football teams are in a sense similar to fingerprints—there are no two alike. If, at the start of practice, a coach were to attempt to equip his team to meet all the variegated offenses and defenses it would be called upon to face in the course of a season, he'd never get off his own goal line. Hence, after grounding his squad in the fundamentals, the coach edits his offense and defense from week to week, revising them to suit the special requirements necessary for the next opponent.

The alterations are made on the strength of a scout's report; that is, where scouting is accepted as part of the preparation program. Although the report of the schoolboy scout usually is not as detailed as that of the college sleuth, nevertheless it plays just as important a role in winning football. In many schools a day, and often part of another, is devoted to a diagnosis of the forthcoming opponents' style of play and the construction of bastions to meet it.

Coaches who scout their opponents ordinarily rely upon their assistants to gather the necessary information. Where no assistants are available, they usually press into service a former player or some astute citizen.

In contrast to the collegiate setup, where a great deal of expense is entailed through long train rides and hotel bills, the high school coach gets his scouting done for practically nothing. It involves very little trav-

elling and usually is considered part of the assistant's duties.

Naturally the most important factor in scouting is the detailed report of the "spy". A good report gives the coach a clear idea of what to expect, where to concentrate his strength and what plays of his own are most likely to work.

In working up this report it is essential for the scout to arrive on the scene well before game time, as a great deal of information can be gathered before the actual kick-off. With this out of the way the scout can concentrate on the details that can be detected only during actual play.

Another reason for an early arrival is to assure a good location in the stands. Very few schools have press boxes and even in these the congestion often is so great that you can't get in.

Most scouts have their own ideas or vantage points. Some like to sit behind the goals, others like an angle view from the corner, while still others like to watch from as high and centralized a point as possible.

I like to spend the first half high up in the stands anywhere between the 30-yard lines, and the next half along the sidelines, following the play up and down the field to get a closer view of the actual contact. Permission to do this should be received from one of the coaches as you will often run into difficulty, particularly if the sidelines are congested.

During the pre-game warmup much information may be gathered about the kickers and passers. You may note the distance they get, their accuracy and consistency and any

individual idiosyncracies. These characteristics must be observed during the game as well, as there is the element of game pressure to be considered. However, a pre-game survey does give the observer something to work on.

He can also get a line on the team's offensive formation while they're running through their warm-up plays. Once this is ascertained he may draft a number of formation diagrams which he can fill in as the game progresses.

All the pre-game notations a scout can make will aid immensely. He should make a particular effort to get the numbers of the players in the various positions. In collegiate scouting this, of course, is rarely a problem, as programs are always available. But at many high school games, there are no programs; and without names and numbers a great deal of information is invalidated.

Following is a list of some of the more important things a scout should look for:

1. How they line up for a kick-off on the defense, particularly if it is unorthodox. A good coach can take advantage of a team on the kick-off if he knows of a weakness.
2. How far and in what direction does the kick-off go. Is it a high end-over-end kick or is it the type that sails low and is apt to bounce in any direction?

3. What is their customary offensive formation. Do they run their plays to both sides? Do they shift to both sides? Do they concentrate on the weak or strong side?
4. What are the numbers of the men in the various positions. Do

(Continued on page 46)

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By W. Harold O'Connor

W. Harold O'Connor of Burrillville High School in Harrisville, R. I., has coached cross-country, track and baseball for sixteen years. He has also served as president of his state's track coaches' association and has been an officer in both the baseball and basketball associations.

SEVERAL years of experimenting with planned practice sessions in high school cross-country running have convinced me that the first two or three weeks' work is probably the most important phase of the training program. This may not hold true in college cross-country, where the majority of candidates have had previous experience. But when you get the boys green in the middle teens the early training schedule assumes a role of far greater magnitude.

As a rule there are two predominant types among the 20 or 30 boys who appear for the initial practice. There's the boy who thinks he's a distance runner because he ran down to the store and back for mother without losing his breath; and there's the type who believes that cross-country is easy, that it merely entails slow jogging over hills.

Nearly every new candidate will fall into one of these categories. Both types may have latent ability. The fructification of this talent depends in a large measure upon the practice schedule. The training regimen may make or break the boy.

Your problem with the messenger-boy type is to hold him down. Like as not the first day out, he'll dart away like a quartermiler; that is, if you let him. *Don't let him.* Others will follow. You may be tempted to stand aside and mutter, "All right, nitwits. Run your heads off. You'll learn."

Never yield to this temptation. The consequences are costly. The boys may run their heads off, all right, but only about half will learn. The others may drop out by the end of the first week. Painful leg muscles are mighty persuasive arguments for quitting the squad.

The boys should be brought along gradually. Slow down the impetuous candidates the first day. By making them ease up in their early workouts, you will retain a larger percentage of this group for the season.

The wait-for-me type of individual presents no real problem during the first week's practice. Usually he'll amble along trailing the rest

of the squad. Let him coast for the first two weeks, but *no longer.* You must then insist that he push himself a bit. If you don't step him up, he may fall into a rut.

Don't push this type of boy too fast, but break him of his snail's pace. You'll be surprised what some long-legged, loose-jointed amblers can do once you light a fire under them.

Since I attach so much importance to these first few weeks, I don't waste any time marshalling my squad on the course the first day of school. Whenever possible I get some of them out a couple of weeks before school opens. If football coaches can do it, why can't we? The extra time may be used to good advantage. It enables you to bring the squad along slowly, at a time when it's important to work slowly.

Know your boys

To develop winning teams you must know your candidates. Among the things I want to know about each boy are these: First, his age. If the boy is only 14 or 15, I know I must use discretion in planning his workouts. I certainly can't drive him the way I might a fellow 18 or 19. He can't stand that kind of work without endangering his health.

Secondly, I want to know his weight. I check on this at weekly intervals all during the season. The weight chart I keep of each individual conveys much vital information. It tells me whether I'm working him too hard, especially at the beginning and at the end of the season.

I have learned not to worry over losses of from three to ten pounds during the first week of practice. Early weight losses vary with the boy's starting condition. Late in the season, however, these losses tell a different story. The boys may be being overworked and in danger of going stale. I know then that I must cut down the work or perhaps give the majority of the boys a few days of complete rest.

Thirdly, I want to know whether the boy has had a physical checkup and is able to run. When the doctor checks up on the boy, I want to know his pulse rate. From actual experience I have learned that the best cross-country runners have pulse rates of 50-52 or thereabouts. Those having pulse rates about 74-76 are seldom capable of good times over a two and a half mile course.

The best man I ever had, the holder of the present state Class B record, had a pulse rate of 48-50.

Among other things I like to know about my candidates are several the average coach may deem inconsequential. For example, I like to know whether the boy lives in town or in the country, and whether he does much walking or bicycle riding. In fact, upon learning that a boy does a lot of walking to and from school I don't wait for him to come to me; I go after him!

I also want to know whether a boy smokes and how he rates scholastically. There are two reasons for my interest in his scholastic standing. First, I want to know what chance he has of finishing the season with me. If he's in the danger zone I try to prod him into making an extra effort to pass his studies and thus remain eligible for the team.

My second reason is for the purpose of determining his general intelligence. I can then decide how much instruction he is capable of digesting at one sitting. This must be commensurate with his powers of retention.

Most of this information can be gathered within the first two or three days. This background material is stored on cards, on which also are recorded times of trials, race times, race places and best performances each year. To discover just what progress a boy is making any time during the season, all I need do is glance at his card.

Practice regimen

The first two weeks' practice should consist of alternate jogging and walking to get the legs in shape. We practice over our regular two and a half mile course, starting with a 440 jog followed by a 440 walk. Every two days the distance to be jogged is increased and the walk cut down. At the end of the second week we're jogging over the full course. The third week is divided between work over a three and a half mile course (for two days) and our first speed work over the two-mile distance. The emphasis here, however, is not so much on speed as on climbing and descending hills.

The coach can make himself particularly useful at this stage by going along and pointing out the correct technique of taking hills. Most high school teams are beaten on the hills. For this reason I like to have my boys climb fairly fast. To gain speed on the upgrade I have them step up their pace just before reaching the hill proper. Their momentum takes them up part of the slope

(Concluded on page 47)



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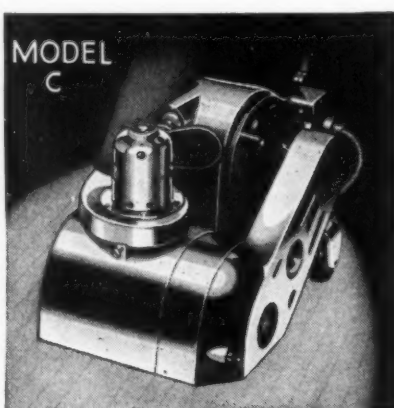
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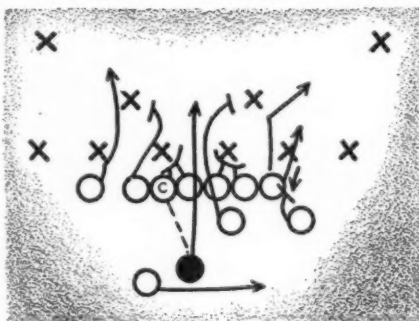
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Coaching School Notes

(Continued from page 14)



Diag. 7, Line Buck

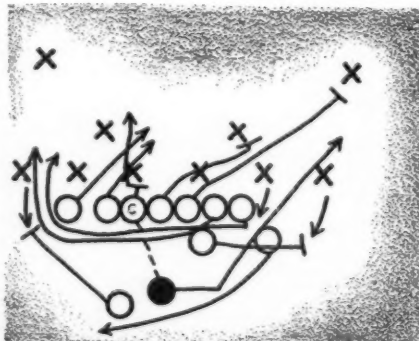
shoulder, they drive the defensive left tackle to the outside. The right end charges across the scrimmage line and hits the defensive left guard with his left shoulder, driving him in.

The wingback feints a step at the end and angles over to the defensive fullback, taking him to the inside if possible. The fullback takes two steps to the right, angles to his left, bumps the end and continues on downfield for secondary. The tailback takes two steps to the right and cuts into the hole.

Kern's straight line buck is outlined in **Diag. 7**. As the ball is snapped, the left end slides over to his right, catches the tackle with his left shoulder, checks him for four counts, and then races downfield for the right half. The left guard goes straight through, obtains a nice inside angle on the defensive center and drives him to the outside.

The right end goes for the defensive fullback and hits him if he is wide. If the latter comes up into the hole too fast, the end continues on down for the left half, leaving the block for the quarterback.

Meanwhile the wingback cross-steps over and checks the defensive left tackle for four counts, catching him with his right shoulder and then continuing downfield. The quarterback doesn't waste any time going through the hole and cutting down the defensive fullback, driving him to the outside. As the tailback fakes to the right, reaching for an imaginary ball, the fullback tucks in a soft, knee-high



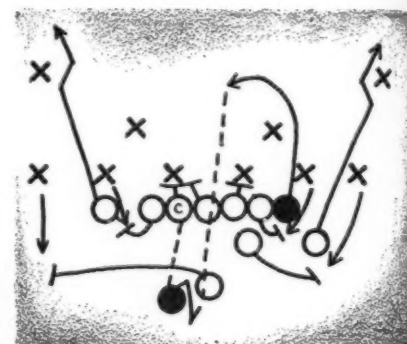
Diag. 8, Bootleg Play

pass in stride and plows through between the defensive guards.

The bootleg play inside the defensive left end in **Diag. 8** is designed to suck the defense over to the weak side. The outside tackle and the right end attempt to bamboozle the enemy by pulling out and swinging over to the left, just as they did on the weak-side reverse. The wingback adds to the deception by faking a reverse and going inside the weak-side end, while the tailback charges the defensive right end.

In the interim, the fullback has received the snap with a crossover step and taken two steps parallel to the line of scrimmage. He fakes to the wingback and, with the ball on his right hip, cuts upfield inside the end and veers to the outside.

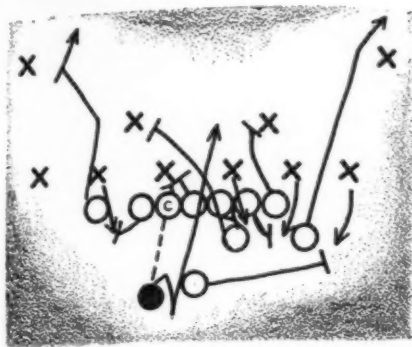
The left end and guard shoot through at a 45-degree angle and take the measure of the first opponent they meet. The center hesitates for one count and then races for the safety man. The right guard and inside tackle are responsible for clearing the path ahead of the runner. On the snap they angle over to the right and take the defensive fullback and left half, respectively. The quarterback makes the key block, driving the strong-side end to the outside.



Diag. 9, Freeze Pass

In the forward pass play plotted in **Diag. 9**, the tailback covers up the true nature of the play with a step directly into the line. After stepping forward with the left foot, freezing the backers-up to their posts, he fades back and hurls his pass to the right end, who has gone down eight yards and hooked over center to screen off the safety man. The ball is thrown high enough to clear the linemen and the backers-up.

The left end gallops straight for the right half, fakes a step to the right and then cuts deep behind him to the outside. The wingback pulls the same kind of stunt on the other halfback. The left guard slides back and shoulders out the defensive right tackle. The inside tackle body checks the defensive left guard, and the outside tackle drops back to shoulder out the defensive left tackle.



Diag. 10, Fake Pass and Run

The quarterback moves out to keep the defensive left end away. The fullback takes one step forward with the right foot and slants over to block out the defensive short-side end. If the left end or the wingback can outrace their men, the tailback may fake to the right end and pass to the free man.

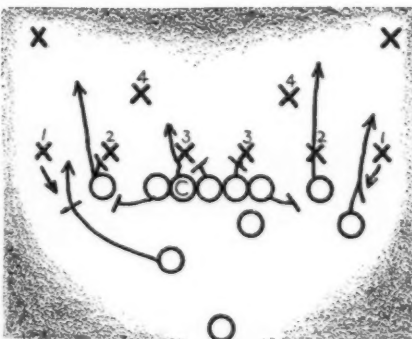
Diag. 10 outlines a shrewdly-concocted check play on this pass. After receiving the snap, the tailback again steps up and fades back. But this time he fakes the pass and drives up fast between a hole which has been opened up between the defensive guards.

The left end and the wingback go down on the outside, luring the defensive halves deep. The left guard and the two tackles let their men in three yards and then smack 'em to the outside. The right end goes through and moves the defensive fullback to the outside.

The quarterback scampers through the hole to drive out the defensive center, while the fullback ties up the defensive left end.

Kern doctored his kick formation last year after two punts were blocked in the Fordham game. He had no others blocked for the remainder of the season. In his new setup (Diag. 11) the linemen, with the exception of the ends, who fan out three to five yards, assume the same positions as in the regular unbalanced single wing. The blocking back, wingback and tailback stay put, while the fullback falls back ten yards into punting position.

The defensive men are numbered from the ends in. Hence, against a six-man line, it is 1-2-3 on each side; the ends are 1, the tackles 2 and the guards 3. If a seventh man drops into



Diag. 11, Kick Formation

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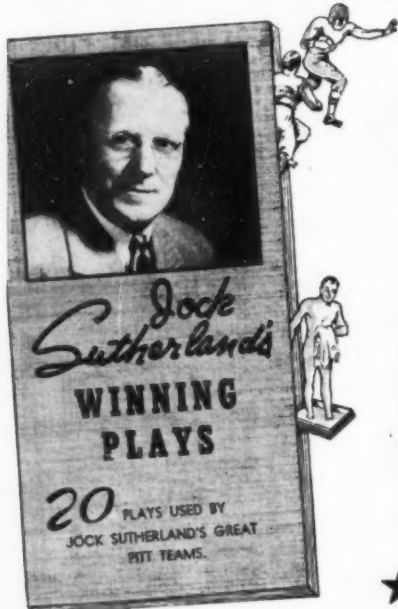
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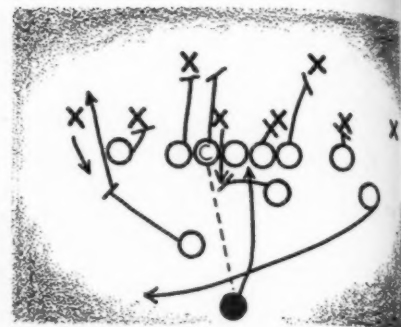


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Diag. 12, Fake Reverse

the line he automatically becomes number 4, the other numbering remaining the same.

Number 4 is always taken by the blocking back. Number 1 (on the left) is screened by the tailback who goes down the field on the outside. Number 2 on that side is assigned to the short-side guard, while 3 may be handled by either the right guard or center, depending on where he lines up. On the right side 3 is taken by the inside tackle, 2 by the outside tackle and 1 by the wingback.

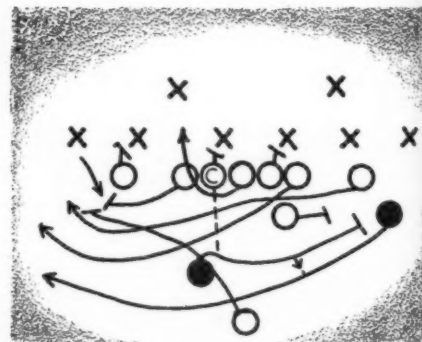
Kern has developed a series of running plays and passes from this formation based on his regular single wing assignments.

Diags. 12 and 13 outline two ball-handling sequences with the fullback deep. In Diag. 12 the full fakes to the wingback and after his second step, drives through any hole he can find.

A great advantage of this sequence lies in having the wingback in motion. The defense can't ignore him and yet cannot close in too fast, lest he carry the ball wide around the short side. The wingback thus tends to freeze the defense, setting them up for the full-back fake.

In Diag. 13 the ball is centered to the tailback, who may keep the ball, hitting any hole in the line, or give to the fullback smacking inside the defensive right end or tackle. Delayed passes are particularly effective from this formation, with the tailback faking to the fullback and fading back to pass.

The defense thus must watch three men: the fullback, on a quick shot; the wingback, going wide; and the tailback, hitting into the line or "boot-legging" wide to the right or fading and passing.



Diag. 13, Triple Option

THE PHYSIOLOGY OF ATHLETICS

VII Fatigue

THE possibility of a relationship between fatigue and diet is indicated by the fact that variations in fatigue are in part correlated with differences in the liability to acidosis (acid intoxication, a physical condition in which there is a depletion of the alkali reserve of the body), in which the various products of metabolism play a role.

If this logic is sound, two changes should be wrought in the athlete's diet. Foods which yield acid end products should be reduced while foods which yield alkali end products should be increased.

Fats, when burned excessively in the body, are more prone than carbohydrates and proteins to yield acid end products. Fats, therefore, should be reduced to a minimum in the diet of the athlete in training.

Causes of fatigue

An excess of lactic and other acids is the principal cause of fatigue. If it were not for the presence in the muscles of certain alkaline salts, called muscle buffers, which neutralize these acids, we could not perform activities of more than a few moments' duration.

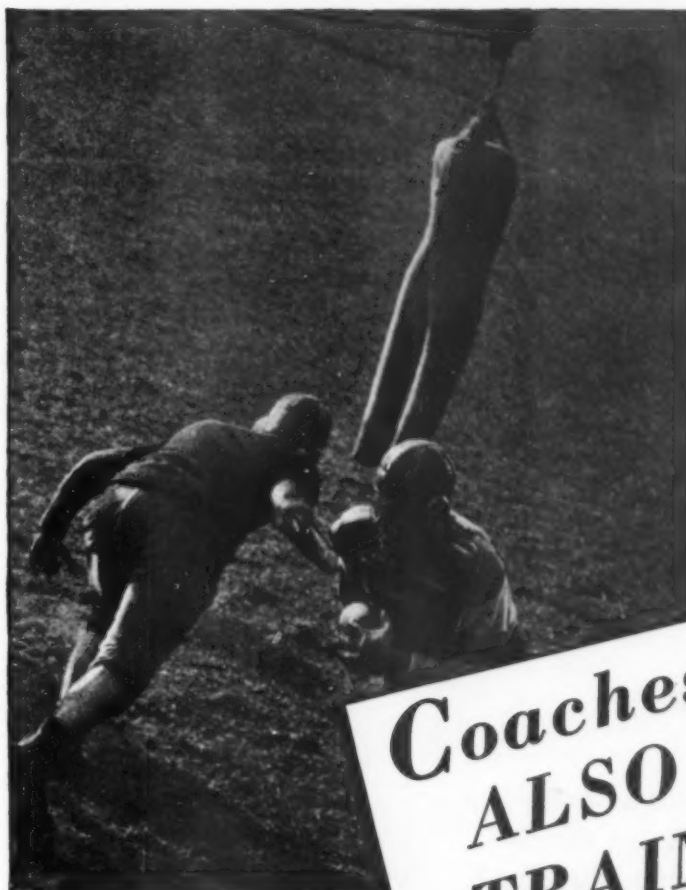
The buffering power of muscles vary with the individual and within the same individual under various states of nutrition and training. Ninety percent or more of the excess acid is neutralized by the muscle proteins. Therefore, the protein intake during periods of frequent and regular exercise must be adequate.

Fatigue may also result from the exhaustion of muscle glycogen. Although the body can form glycogen from protein and possibly from fats, the primary source is the carbohydrates.

In the past, hard-hearted trainers ruled candy off the diet of athletes. But a study of marathon runners showed that those who had lived on a generous carbohydrate diet during the training season and who had eaten candy before and during the race not only came out ahead, but were also in much better physical condition than those who ran "unsweetened."

Thus, the diet of the athlete in training for competitive sports should include an abundance of carbohydrates and proteins and a minimum of fat.

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Tackle and End Play

(Continued from page 11)

ping of linemen. Tackles are pulled to the outside by fakes, blocked out and the plays run inside of them. The latest development is to fake the tackle to the inside and then have him blocked in by the wing-back.

There is one essential thing for the tackle to remember: Never go straight across the line of scrimmage; always go in at an angle. A good tackle should never go more than a yard across the line of scrimmage before he adjusts himself to work on the play. If the tackle feels he has been let into the backfield to be trapped he should immediately drop on his inside leg and brace himself with his outside leg to meet the blocker coming out. This should check the blocker and force him to block the very opening he is trying to create.

Defensive end play

Defensive end play nowadays is much more difficult than it was years ago when the end's main duty was just to keep the opponents from running around him. In the modern game the end usually goes in very hard. He has the responsibility of closing the gap between the tackle and himself as well as protecting the area on his outside. This job has become more complex with the origination of the in-and-out play which starts off tackle and finishes up around the end.

Standard end play calls for the end to line up either in a low crouch or with one hand on the ground. Some ends in going into the backfield take three steps, others take two. Some have the inside leg up when they get across the line of scrimmage to meet the blockers, others have their outside leg up. All of these methods are good and are widely used. The one thing to avoid is to set both feet on a line so that both thighs are exposed to blockers.

Although the end goes in fast he should go in on a slight hook. His position after he penetrates is a medium crouch, one leg well in advance of the other, with the hands well out in front of the forward knee. In this position he should be able to keep the blockers away from his legs, a very important point, and force the blockers back by a good hand charge plus a good leg drive.

Because the end has the extra responsibility of plays outside of him, mention should be made of the

method of meeting an outside attack. The end moves into the opponents' backfield with his regular charge, as he does not know at the outset where the play is going. He meets the blocker with his hands (picture A, Series 9) and at the same time keeps his eyes on the runner. As the blocker tries to get an out-



side position on him, the end takes a high cross-step with the inside leg towards the outside (refer to fifth picture of ninth series on page 11). The step is made in *front* of the outside leg. This high cross-step plus the hand charge or pressure is continued (fourth and fifth pictures) on out toward the sideline.

Ends usually make two mistakes in meeting outside plays. Sometimes, as soon as he sees the play going outside, he stops right on the line of scrimmage or backs up. This enables the interference to sweep around him and gather momentum down the field. The end would do much better to force the play deep, giving his teammates a chance to come up to meet the play.

The second common error is in not playing off the blockers long enough. In his anxiety to get to the play, he lets the blocker get to his body and legs instead of playing off the blocker and trying to run the play out to the sideline.

There is a saying in the Army that in any tactical situation some decision should be made, some action taken; what you do in the situation may not be tactically correct but indecision or doing nothing is the cardinal sin.

The same holds true in football, especially in line play. I have seen green linemen, full of pep and fighting spirit, charge into a play like bulls in a china shop. What they did was tactically wrong but the manner in which they did it ruined the play. The will to win often may make up for any physical shortcomings.

Exercises

(Continued from page 22)

legs apart: Raise hips and roll them, gradually increasing rhythm.

4. From a supine position with hands clasped behind neck: Bring legs back to a position almost touching ground behind head, keeping hips on ground and legs straight and close together; return legs to original position to a very slow count of ten. (See page 22, lower right.)

Ankles and Feet. 1. From a sitting position with legs straight and slightly apart: Flex and extend feet.

2. Sitting on a low stool with legs extended and about one and a half feet apart, heels resting on floor and toes pointing upward: Lower toes as close to ground as possible, then bring feet towards each other (without moving heels) until toes almost touch; return to starting position and repeat.

3. Sitting on a low stool with feet on ground about ten inches apart and parallel to each other, with knees directly above heels: Curl toes and turn ankles outward so that only outer edges of feet are in contact with ground; in this position stretch and curl toes.

4. From a prone position with lower legs flexed at right angles to ground: Flex and extend feet.

Warmup Exercises

Following are series of warmup exercises which may be employed before the game, before the second half and immediately before a player is sent in as a substitute.

1. From a front leaning rest: Flex and extend arms.

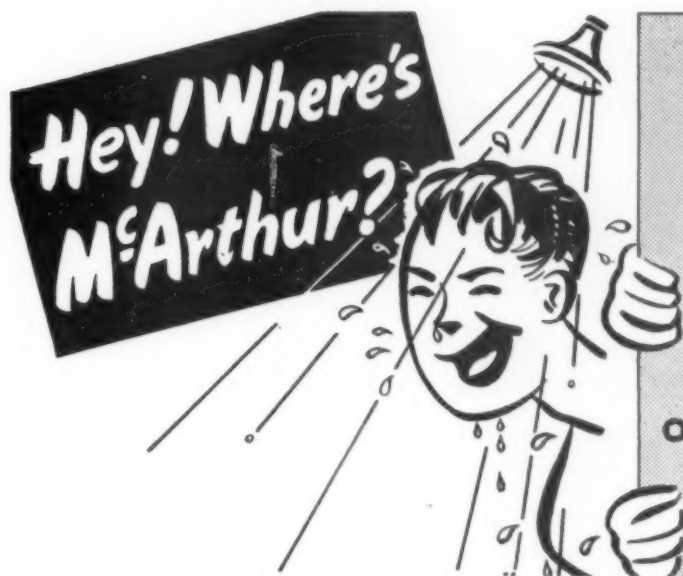
2. Standing with arms held forward, sideward or downward, hands fist: Briskly rotate arms inward and outward from shoulder joints.

3. Place left leg backward, then swing it forward and upward to head; follow immediately with right leg. Step five times in place (left, right, left, etc.), striking knees against shoulders and keeping legs as straight as possible.

4. From a squatting position with hands on hips or thighs: Advance with short hops.

5. From a supine position with legs raised a handbreadth off the ground and hands behind neck: Rotate legs in small circles, inward and outward, keeping toes and legs extended.

6. Keeping feet parallel and slightly apart: Rise on toes, return and rock back on heels.



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DIET FOR THE FOOTBALL PLAYER

By Laurence E. Morehouse

Dr. Laurence E. Morehouse, authority par excellence on athletic training, conducts the "Physiology of Athletics" department in "Scholastic Coach." After serving several years in the physiology department of the University of Iowa, Dr. Morehouse now directs the physical education and intramural sports programs at the University of Wichita.

FOOTBALL coaches acquainted with the physiology of exercise know that to get the most out of their boys certain food habits must be established as part of their training program.

If the athlete's food habits have been good, his dietary does not have to be altered to any great degree. If, before the beginning of the football season, he has been eating an unbalanced diet and should continue this same diet throughout the training season, the greater expenditure of energy demanded by the football practice will only hasten the breakdown that has already been started.

In most American homes the daily food intake supplies enough calories to more than meet the energy requirements of even the most active member of the family. If the high school football player is getting at least 3500 calories on days of moderate activity and about 5000 calories on days of scrimmage or competition, the diet is usually meeting his energy needs.

During the season the diet should be adequate and well-balanced. The percentage of calories in a well-balanced diet should be broken up as follows: Protein, 10-15; Carbohydrate, 55-70; Fat, 20-30.

On the day of the game special considerations enter into the diet. The fat intake should be reduced and the carbohydrate intake increased—the protein intake remaining constant. The percentage of car-

bohydrates is increased because they are the most economical sources of energy for muscular activity. Fats, conversely, are reduced because of their tendency to retard the rate of digestion.

The softer fats, such as butter, are preferred. They're more easily digested than such harder fats as suet, and supply essential nutrients as well as vitamins. Although fats are less efficient than carbohydrates for muscular work, they are used as a fuel during muscular activity, even by men who are living on fat-poor diets.

Since all vitamins but E have been recognized as specific chemical substances, they can be supplied synthetically where shortages in the diet are recognized. Vitamin A is beta carotene, B is thiamin hydrochloride, C is ascorbutic acid, D is calciferol, and G is riboflavin. Nicotinic acid is a vitamin which is associated with the vitamin B complex. Riboflavin is also considered by some as a vitamin of the B complex.

Codliver oil supplies large amounts of beta carotene (A) and calciferol (D), dried yeast is rich in thiamin hydrochloride (B) and riboflavin (G), orange juice is a good source of ascorbutic acid (C), while meats contain ample amounts of nicotinic acid (B).

The lack of any of the vitamins in the diet may give rise to a decrease in physical efficiency long before a readily recognizable disease appears. A diet deficient in nicotinic acid results in laziness, discontent, apathy and despair. Thiamin deficiencies are nervous and apprehensive or irritable, tired and listless.

The new enriched flour and bread has an increased content of thiamin,

riboflavin, nicotinic acid and iron to replace the vitamin-containing portions of the flour removed in the modern milling process.

Lack of vitamin A provokes night blindness, which would certainly affect the performance of a night-football player. The fish liver oils and butter fats are rich in vitamin A.

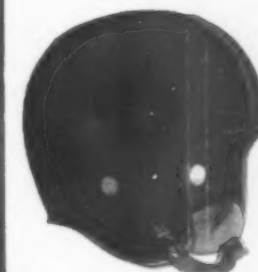
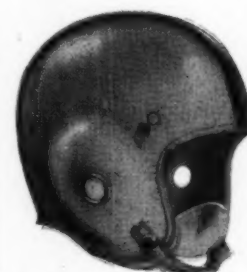
The lack of vitamin C increases susceptibility to infections. Citrus fruits and leafy vegetables are excellent sources of this vitamin.

Practically all investigators agree that there is no danger of over-dosage from vitamin-rich foods or from a reasonable use of special vitamin supplements. Vitamin intakes a thousand times greater than the protective dosage have been proven harmless.

Football players frequently lose five pounds and sometimes more during a game or a particularly strenuous practice. This decrease in body weight is due mainly to water loss. Cramps and a lowering of physical efficiency is often associated with such loss. These are caused by the mineral unbalance resulting from the decrease in essential salts, mainly sodium chloride.

As a safeguard against this mineral unbalance, some coaches have been borrowing a page from the steel smelting mills. By adding small quantities of salt to the water during the half-time recess, they have noticed a decrease in the incidence of cramps and second-half weakness.

Coaches who would like to give their players a few suggestions on essential nutritional requirements, along with other conditioning aids and training rules, may utilize the simple plan outlined on the opposite page.



School Price \$7.50

THESE HELMETS ARE MADE OUT OF PLASTICS AND ARE—

- 1. Stronger.**
- 2. Lighter.**
- 3. More Beautiful.**
- 4. Cooler (they are ventilated).**
- 5. Easier to hear signals in.**

FOR 1941 WE WILL HAVE TIME ONLY TO MAKE TWO-TONE HELMETS AS PER PICTURES OR CUTS.

BE SURE AND READ NOTICE IN EACH HELMET.

The following colors and top straps can be furnished in helmets:

BODY COLORS

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ORANGE
YELLOW
GREEN
BLUE

NAVY
BLACK
GREY
GOLD
OLD GOLD

SILVER
COPPER
BRASS
BRONZE
PURPLE
BROWN

TOP STRAP COLORS

RED
ORANGE
YELLOW
GREEN
BLUE

BLACK
WHITE
GOLD
SILVER
PURPLE

IN FULL COLORS ONLY

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BLACK
GOLD
OLD GOLD
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Basket Ball No. 1

Same center as Style A, covered with good grade of Gunnison leather.

Price.....\$8.00



Basket Ball No. 2

Covered with good grade of pebble grained cowhide.

Price.....\$6.75

Basket Ball No. 3

Covered with good grade of pebble grained split cowhide.

Price.....\$5.25

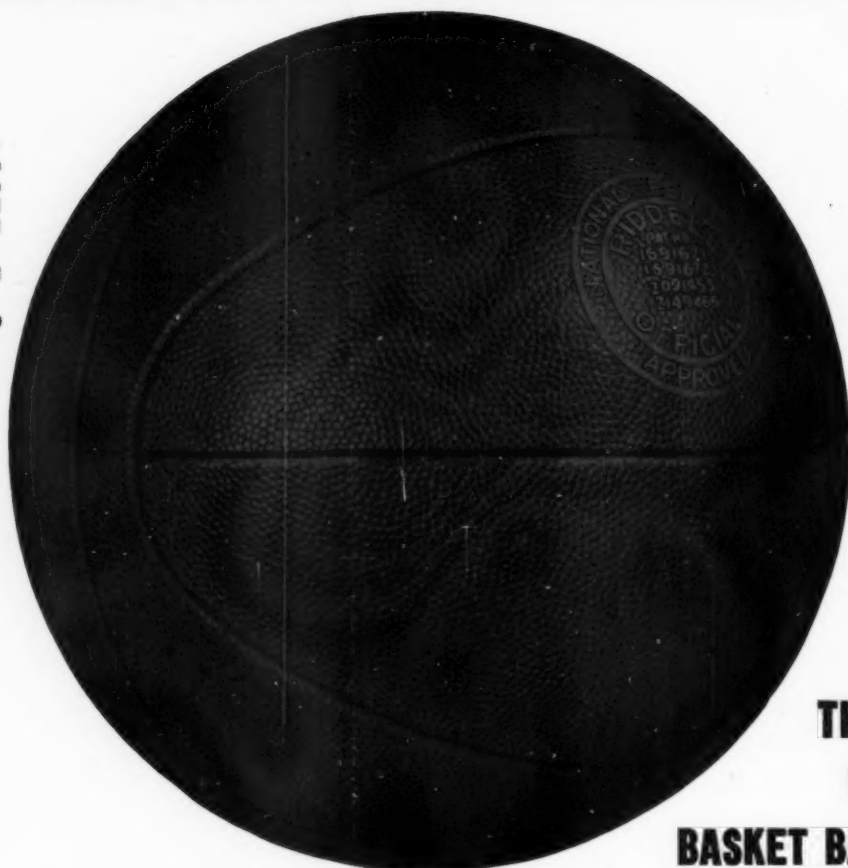
Style A

The ball that feels like a basket ball. Covered with the same grade of Gunnison leather that has been used for years in the best stitched balls.

A very tough ball that will hold its size and shape.

Price.....\$10.00

**Our Style "A"
Basket Ball
Is National
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Approved.**



**THE RID
MOULD**

BASKET BALL AN

**THE BALL THAT KEEPS THE FEEL AND REACTION OF
THE BALL THAT RETAINS THE RATIO OF BLADDER, LINING
THE BALL THAT WILL NOT THROW A PLAYER OFF H
THE BALL THAT WILL NOT MAKE THE COACH CHANG**

BASKET BALL SHOE ACCESSORIES



Style 56

The Champion of leather top basket ball shoes. Is genuine Goodyear welt construction with non-marking sole that can be resoled. We believe this is the fastest starting and stopping shoe on the market. It features a shock absorbing quality that will save your players from fatigue in the hard grind of a basket ball season.

Price.....\$6.00



Style 55—Red

A light basket ball shoe in colors for game use. Made up special, requires 3 weeks.

Price.....\$7.50

	School Price
Laces, gross.....	\$4.50
Outsoles (Light-colored, non-marking), per pair.....	1.00
Resoling with Light-colored, non-marking soles, per pair.....	1.90
Sponge Rubber Insoles, per pair.....	.25
Cork Insoles, per pair.....	.11

**ALL SHOES MAY BE HAD IN
THE FOLLOWING ADDITIONAL COLORS
BLUE — ORANGE — GREEN**



Style 57

Same as 56 only in white elk.

Price.....\$6.75



Style 55—Brown

A light basket ball shoe in colors for game use. Made up special, requires 3 weeks.

Price.....\$7.50



Style 55—Yellow

A light basket ball shoe in colors for game use. Made up special, requires 3 weeks.

Price.....\$7.50



Red Bowling

Bowling Shoes in colored kid. to make up.

Price.....

RIDDELL



Football No. 1

Same as No. A only covered with Gunnison basket ball leather.

Price.....\$6.50

Volley Ball



A very fine moulded volley ball that will hold its size and shape.

No. 1 covered with best grade of white elk leather.

Price.....\$5.50

Covered with good grade white leather.

Price.....\$4.25



**Boxing
Style 67**

A genuine Goodyear welt boxing shoe. Upper of heavy kid. Sole of soft Moccasin leather.

Price.....\$5.00



**Wrestling
Style 70**

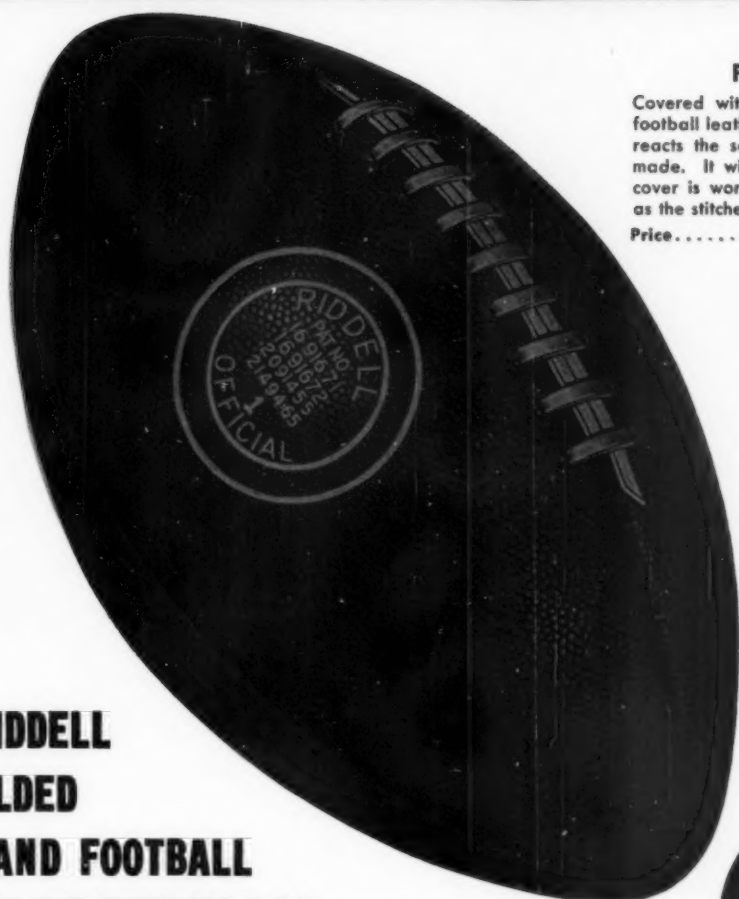
Same as 67 except sole is tough rubber. Has non-scutt tip.

Price.....\$5.00

Football No. A

Covered with Gunnison's special university football leather. This ball at 9 lbs. pressure reacts the same as the best stitched balls made. It will hold its size and shape until cover is worn off. Does not get as soggy as the stitched ball when wet.

Price.....\$8.00



THE RIDDELL MOULDED BALL AND FOOTBALL

ACTION OF THE STITCHED BALL
ODDER, LINING AND LEATHER OF THE STITCHED BALL
YER OFF HIS GAME
ACH CHANGE HIS STYLE OF PLAY

BASKET BALL AND FOOTBALL ACCESSORIES

School Price	School Price
\$4.50	Basket Ball Score Books (Adams), each.....\$0.35
1.00	Repair Cement (Riddell), tube......25
1.90	Ball Cleaner (Riddell), can......35
.25	Ball Wax (Riddell), cake......25
.11	Basket Ball Bladders (Seamless Rubber Moulded), each..... 1.00
	Football Lace, each......15
	Football Rule Book (National Federation)......25



**Bowling Shoes
Style 66**

Style 66—The last word in an athletic bowling oxford. Shoes are of equal weight. Has starting insert on right foot which will not tear off. A very stylish looking shoe. Has white eyelets. Men's sizes 6 to 12. Women's sizes 2 to 9. B, C, D, and E widths.

Price.....\$4.50

Style 69—Same as Style 66 only with high top. Has black eyelets. Carried in C, D, E widths.

Price.....\$4.50



Brown Bowling

Bowling Shoes in colored kid. Takes 3 weeks to make up.

Price.....\$6.75



Yellow Bowling

Bowling Shoes in colored kid. Takes 3 weeks to make up.

Price.....\$6.75



Red Bowling

in colored kid. Takes 3 weeks

Price.....\$6.75



RIDDELL

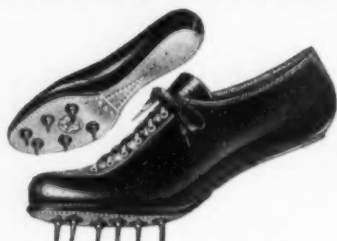
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TRACK AND FIELD SHOES



Style S—Our finest model University shoe. A light, but very durable, glove-fitting yellowback Kangaroo sprint shoe. Hand-turned construction. . . \$7.00



Style N—A hand turned shoe made of very fine grade of Athletic Tan leather. Fits like a glove. . . . \$5.75



Style NX—A track shoe long needed to meet the demand for a more durable practice shoe. It is of genuine Goodyear welt construction. Has full sole which keeps upper from wearing out at heel. We believe this is the toughest track shoe made. . . . \$4.50



Style T—A good durable track shoe. Upper made of tough Athletic Tan leather that insures fit, comfort and resists perspiration. . . . \$3.90



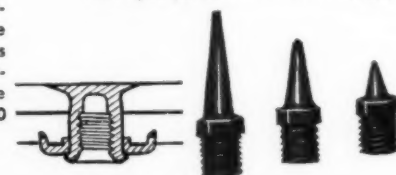
Style J—Field or jumping shoe of a grade corresponding to Style S. Has counter and two spikes in heel. Our very best yellowback field shoe. . . . \$7.50



Style K—A very strong shoe of welt construction. Highest grade oak soles. Made of Athletic Tan leather. Two spikes in heel. . . . \$6.00



Style KX—Same shoe as Style K except it has usside heel with no spikes in heel. . . . \$5.75



Riddell Track Shoes feature an interchangeable spike in three lengths: price, each. . . . \$0.05

$\frac{1}{4}$ " for board tracks
 $\frac{3}{8}$ " for indoor dirt tracks
 $\frac{5}{8}$ " for outdoor tracks

The soles of the shoes are reinforced with a steel plate. The fixture binds the sole together in such a way that the spikes cannot punch up into the foot.

(Not Carried in Stock)

KP—Pole Vaulting Shoe like K only high top, one spike in heel.	\$ 7.00
JP—Pole Vaulting Shoe like J only high top, one spike in heel.	9.25
JX—Cross Country same as J only has usside heel with no spikes.	6.50
JY—Indoor Shoe with no spikes in tap or heel, usside soles.	7.50
KY—Indoor Shoe with no spikes in tap or heel, usside soles.	6.50

SPECIAL TRACK SHOES

(Two Weeks to Make Up)

TRACK ACCESSORIES

Track Wrenches.	\$ 0.35	Laces for Track Shoes, per gross laces.	\$ 1.50
Repair Kits complete for football and track shoes.	10.00	Fixtures complete.07

BASEBALL AND SOFTBALL SHOES



Style SB—Our very best feather-weight baseball shoe built especially for the big league player. Made of Yellowback Kangaroo. Extra strong and extra light. . . . \$8.50



Style NB—A very fine Goodyear welt construction baseball shoe with split shank sole. Made of Ath-Tan Kangaroo. Used by many professionals. . . \$5.50

Style NBS—Same as NB only has short $\frac{3}{8}$ " softball spikes. . . . \$5.50



Style KB—Goodyear welt construction with straight sole. An extremely strong shoe. Upper made of the finest Athletic Tan leather. Used by quite a few Big League catchers and pitchers. Best shoe in our line for this purpose. \$4.50

Style KBS—Same as KB only has short $\frac{3}{8}$ " softball spikes. . . . \$4.50



Style 33—Has a regular baseball upper made out of Athletic Tan leather. Leather insole and counter. Features a special moulded rubber outsole with cleats moulded on the sole which are especially adapted for softball. Each sole has two extra removable golf spikes which can be used at the discretion of the player and can be easily removed if not desired. This shoe makes an excellent golf shoe; also, can be used as a football official's shoe. . . . \$5.00

BASEBALL ACCESSORIES

Laces, gross.	\$1.65
Spikes (sole or heel), pair.18
Pitchers' Toe Plates, attached to shoe, leather, each.	1.50
Pitchers' Toe Plates, attached to shoe, full cap aluminum, each.	1.00
Pitchers' Toe Plates, loose, leather, each.38
Pitchers' Toe Plates, loose, full cap aluminum, each.60



RIDDELL

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FOOTBALL SHOES



Style 89—Game shoe of Yellowback Kangaroo—soft toe—buffed sole—equipped with No. 4 cleats. Goodyear welt construction.

School Price.....\$11.75

Style Z—Same shoe in Blue Back Kangaroo. School Price.....\$9.75



Style H—Second oldest shoe in our line. A strictly university grade shoe. Upper of the finest Yellowback. Split shank, Goodyear welt construction. Comes equipped with No. 4 cleats. School Price.....\$10.75

Style HX—Same as H only has soft toe. School Price.....\$10.75



Style R—The oldest shoe in our line. Used as an all-round shoe for practice and games by many of the country's leading teams. Light, yet very tough and comfortable. Comes equipped with No. 4 cleats. Goodyear welt construction. School Price.....\$9.75

Style RX—Same as R only has soft toe. School Price.....\$9.75



Style P—The original quality straight sole shoe. Used by many professional and university teams for practice as well as games. Made of the finest selections of Ath-Tan leather and Oak sole leather. Equipped with No. 4 cleats. Goodyear welt construction. School Price.....\$8.75

Style PX—Same as P only has soft toe. School Price.....\$8.75



Style 77—Upper of Athletic Tan leather which is very tough and pliable and will withstand perspiration. Goodyear welt construction, ten eyelets high. Split shank soles of good grade Oak Tan leather. Equipped with No. 4 cleats. A good practice shoe. School Price.....\$7.75

Style 77X—Same as 77 only has soft toe. School Price.....\$7.75



Style O—One of our old standbys with the larger high schools. Made of the best grade of Ath-Tan leather. Is a shoe of excellent quality. Is light, durable and a shoe we can recommend without reservation. Equipped with No. 4 cleats. Goodyear welt construction. School Price.....\$6.75

Style OX—Same as O only has soft toe. School Price.....\$6.75



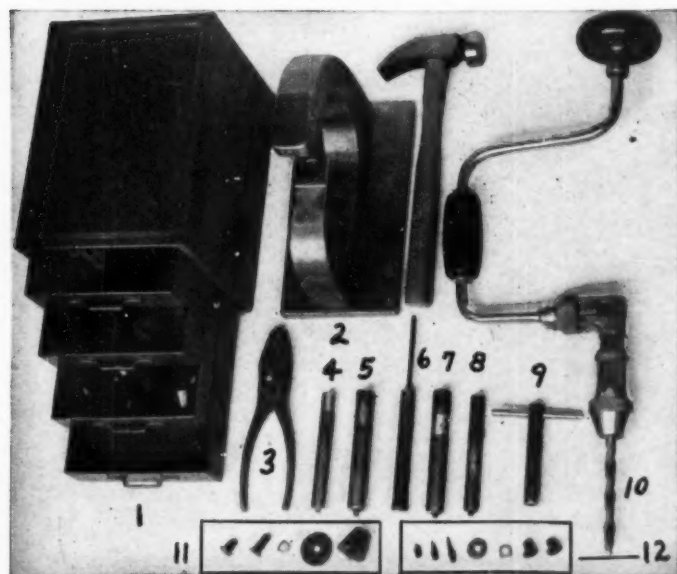
Style X—A very sturdy shoe. Made throughout of a good grade of Athletic Tan leather. Soles are of good Oak leather. By all odds, the best shoe made within this price range. Has No. 4 cleats. Goodyear welt construction, nine eyelets high. School Price.....\$5.75

Style XX—Same as X only has soft toe. School Price.....\$5.75

The House of Riddell has had 18 years' experience with female cleats and fixtures and 13 years' experience with the male cleat construction. Our shoes can be had in either construction. Our long experience is your safeguard and protection.

FOOTBALL SHOE ACCESSORIES

School Prices



Kicking Toes, each.....	\$1.00
Cleats No. 1, Male or Female, per set of 14 in bag.....	.35
Cleats No. 2, Male or Female, per set of 14 in bag.....	.35
Cleats No. 4, Male, per set of 14 in bag.....	.27
Cleats No. 4, Female, per set of 14 in bag.....	.27
Cleats No. 5, Mud—Male, per set of 14 in bag.....	.27
Cleats No. 5, Mud—Female, per set of 14 in bag.....	.27
Laces, gross.....	4.50
Fixtures, complete (Male or Female Set-up).....	.05
Pliers.....	.25
Cleat Wrench.....	1.50
Cork Soles, pair.....	.09
Sole Plates, pair.....	.24
Heel Plates, pair.....	.20
Reinforcement Plates, pair.....	.10
Neatsfoot Oil, quart.....	.90
Repair Kit—This Repair Kit Can Be Used for Both Male and Female Cleats.	
Hammer and Brace are not a part of tool kit. School Price for complete kit (22 items) \$10.00	

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COACHES TAKE NOTICE SPECIAL ON CLEATS

We have had No. 4 and 5 cleats for twelve years. They are made of a special rubber fiber stock. These are the best No. 4 and 5 cleats we have ever had. Because of quantity production we can give you the following prices:

No. 4 Female Regular ($\frac{3}{8}$ " on end). Per set of 14 in bags 27c

No. 5 Female Mud ($\frac{3}{8}$ " on end). Per set of 14 in bags 27c

No. 4 and 5 MALE (same dimension as above). Per set of 14 in bags . . 27c

No. 1 Plyable Rubber Regular ($\frac{1}{2}$ " on end). Per set of 14 in bags . . . 35c

No. 2 Plyable Rubber Mud ($\frac{3}{8}$ " on end). Per set of 14 in bags 35c

(We also carry in stock for use of the professional football players our No. 6 and No. 12 concave cleats at 30c per set, and No. 5 $\frac{1}{2}$ small mud cleat at 30c per set.)

COACHES SPECIAL NOTICE COACHES

The Riddell system of marking and advertising is your protection. A genuine Riddell shoe in all sports has the name "RIDDELL" perforated in the top of the tongue. Remember a shoe is not a genuine RIDDELL shoe unless it is so marked.

The style (which also designates the grade) is perforated near the top of the tongue.

Our catalog gives you the standard school price of these styles of shoes.

THIS IS YOUR RIDDELL CATALOG

Daily Diet

Milk. One pint or more.

Eggs. One or two.

Meat. One or more servings, preferably with some fat.

Vegetables. Potatoes and one or two other cooked vegetables; leafy or green vegetables, either cooked or in salads; raw vegetables in limited amounts for vitamins and roughage.

Fruits. One or more servings, either raw or cooked; citrus fruits, other fresh and dried fruits furnish minerals, vitamins, energy and roughage.

Remainder of Diet. Selected according to taste, especially cereals, breads, fats, and sweets. Since these foods are good economic sources of energy, but generally low in vitamins and minerals, their use should be carefully supplemented by food rich in these essentials. Whole grain cereals are of value for their minerals, vitamins and roughage.

In considering a pre-game diet the following principles should be kept in mind: (1) at game time the muscles, blood and other storehouses should be adequately stocked with readily available energy-supplying and fatigue-combating foods; (2) at game time the stomach should be empty of food and the intestines devoid of large amounts of undigested foods or wastes; (3) at game time gas-forming foods should not be present in the digestive tract.

Accordingly, the foods chosen for the pre-game diet should yield an abundant supply of energy and should supplement the alkaline material of the body (which neutralizes the fatigue metabolites), and yet should not be gas-forming in the gastro-intestinal tract.

Most energy and alkaline foods can be recommended for general use. The gas-forming foods vary with each individual. Most frequently cabbage, cauliflower, parsnips, turnips, onions, cantaloupe, watermelon, apples, and vinegar are found to be gas-forming. As such they should be eliminated from the pre-game diet, even though they may have a high energy or alkaline value.

The following diet has a high energy and alkalinity content, is easily digestible and does not contain foods which are usually gas-forming.

Pre-Game Diet

Milk. One or two glasses of whole milk (pasteurized) with each meal; butter, sparingly; ice cream, if you so desire.

Eggs. One or two at breakfast—boiled, poached or baked, not fried;

(Concluded on page 53)



ALTA-CO POWDER

provides the sure way
to combat Athlete's Foot

That is its one purpose,
and it does the job in
less than one minute in
the recommended solution

ALTA-CO POWDER is stable in solution, and can be tested by anyone using an Alta-Co Powder tester (an outstanding advantage). Used and recommended by leading schools and universities, Alta-Co Powder comes in two forms: white, stainless, and with tracer which leaves a slight yellowish tint as evidence of application.

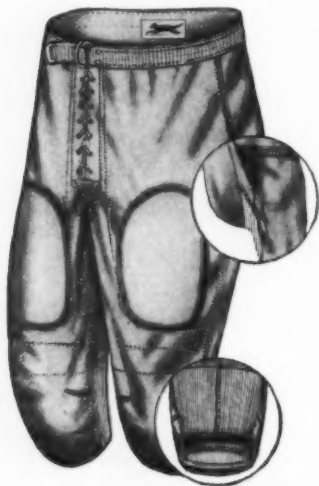
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New Rules Books

1941 N.C.A.A. FOOTBALL GUIDE.
Edited by Walter R. Okeson. Pp. 306.
New York: A. S. Barnes & Co. 50c.

AFTER publishing the football guide for over 50 years through its subsidiary, the American Sports Publishing Co., A. G. Spalding & Bros. has turned over the chore to A. S. Barnes & Co.

The latest guide certainly reflects the change in entrepreneurs. The size, format and contents are radically different from guides of yore. Gone is the monumental collection of team pictures. In their lieu is a series of newsy and informative articles.

Jimmie Phelan writes on the T formation with men in motion; Lou Little on the current of college football and Dick Harlow on photostatic football. Other famous contributors include Alonzo Stagg, Bo McMillan, Bill Stern, Bill Alexander, Bob Zuppke, Dana X. Bible, and a host of others. Numerous single action shots add the right decorative touch.

The principal rules changes for 1941 include free substitution of, and communication between, players; legalizing handing the ball forward behind the line of scrimmage; elimination of touchback when a fourth-down forward pass becomes incomplete on or behind the opponent's goal line; and the restoration of the original rule governing illegal touching of a kicked ball inside the opponent's ten-yard line, which will carry the penalty of a touchback.

QUESTIONS AND ANSWERS ON THE 1941 FOOTBALL RULES. Edited by E. C. Krieger. Athens, Ohio: The Lawhead Press. \$1.

E.C. KRIEGER, the Ohio University rules pundit, now has the eleventh edition of his famous questions and answers book ready for distribution to coaches and officials. Completely revised and condensed, it is the only publication of its type covering collegiate, professional and high school rules.

The book offers these features:

1. 208 questions with complete answers, including many additional related situations.
2. 38 diagrams illustrating touchback, safety and other situations.
3. Special sections for the captain and the players.

National Federation books

1941 Interscholastic Football Rules (Including Six-Man Rules). Edited by H. L. Ray, E. A. Thomas and H. V. Porter. 25c. This code is official for all interscholastic contests in 30 of the most populous states; major provisions are used in others. The six-man rulings are interspersed throughout the book.

Football Play Situations. Edited by H. L. Ray. 50c. A textbook for the

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FOOTBALL
PRACTICE JERSEYS



DURENE
GAME JERSEYS



T SHIRTS



ATHLETIC KNITWEAR

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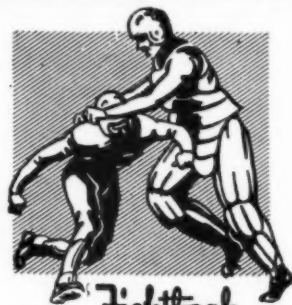
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Also flags, tents and canvas covers of all kinds
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120 BLVD. OF ALLIES PITTSBURGH, PA.

study of rules and game procedure based on the official interscholastic code. Includes a supplementary section on six-man play situations.

1941-42 Basketball Rules (National Federation Edition). Edited by Oswald Tower and H. V. Porter. 20c. These are the regular playing rules as formulated by the National Basketball Committee. The special edition is prepared for the convenience of coaching schools and clinics, and high school men in general. A supplementary section contains much useful information on statistics, the new backboard, tournament schedule calculators, and timing and scoring.

Basketball Play Situations. Edited by H. V. Porter and Oswald Tower. \$1. The rulings to be found in this book are official, all interpretations being sanctioned by the National Basketball Committee.

Football Interpretation Meeting Bulletins. This series provides material for a progressive study of the Interscholastic Football Rules in five or more interpretation meetings or in a sports administration course. Bulletin 1 contains general information; 2 moot sections of the rules; 3 major differences between high school and college codes; 4 rulings relative to forward passes and kicks; 5 experimental work. Each contains sample test questions.

The National Federation publications are supplied in quantities to state high school athletic associations. The football rules and play situations books are also sold to established sporting goods distributors. Individuals or schools who cannot secure the books from the home dealer or state high school office may order from the National Federation, 7 South Dearborn Street, Chicago, Ill. Money must accompany order.

Sports library for women

1941-42 Basketball and Rating Guide. Edited by Josephine Fiske.

1941-42 Softball-Volleyball Guide. Edited by Bernice Cooper and Norma Leavitt.

1941-42 Soccer-Speedball Guide. Edited by Blanche Higgins and Marjorie Fish.

1941-42 Aquatic Guide. Edited by Ernestine A. Troemel and Virginia Lee Horne.

1941 Field Hockey-Lacrosse. Edited by Martha A. Gable and Louise G. Burbeck.

Each of these guides contains the official playing rules, articles on techniques, teaching, organization, large charts on rules or techniques for bulletin boards, bibliographies, scoring suggestions, and certain features related to the sport covered in the respective books. A special section presents information about the National Section on Women's Athletics and available services it offers to teachers.

Each guide sells for 35 cents (paper-bound); 50 cents, cloth. The publishers are A. S. Barnes & Co.

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FAIR PLAY MFG. CO.
Dept. C. Des Moines, Iowa



If you have something for this column send it to Bill Wood, Evanston Township High School, Evanston, Illinois.

For years from various quarters we have listened to shouts of "De-emphasize competitive athletics." Most of the clamoring has been well-intentioned, but ill-conceived. It just hasn't made sense.

"Don't stress winning." O.K. There's compensation in the struggle itself. It is good to battle the other fellow down the stretch, straining every muscle, nerve, and faculty. But you wouldn't do this unless you wanted to beat him to the tape.

"Play for the fun of playing." Sure, why not? But for most of us the fun lies in the winning—human nature being what it is. What's wrong with winning, anyhow? If it is just exercise that you want, playing nursemaid to a vegetable patch in the back yard will serve as well as anything else—better than most forms of athletics.

We contend that competitive sports provide an emotional outlet that makes for a saner, better-balanced outlook on life. Excess, of course, is bad. No coach or player has ever said it wasn't. All athletics and no work is apt to make Jack a very dull boy, indeed. We believe that this saner outlook is reflected in the national attitude.

Competition is part of the normal order of the universe. It is everywhere about us. Why say it is undesirable? The desire to excel is perfectly natural. It is the elixir of life without which existence has little to recommend it.

In college circles the coming season is likely to be the most unpredictable in gridiron history. Coaches won't know their prospects until they actually see the men on the practice field. It will be necessary in many cases to rely upon green material. The older and more experienced players have already answered or will be answering the draft call. Look for better-balanced competition in every league.

Hardest hit squad reported to date is New Mexico State Teachers' College. The army has relieved Coach Ray Brancheau of 22 of his 26 lettermen. That's putting your defense on a national basis!

The University of Southern California has sent 20 of its first string prospects into the army air corps. Among the group are the twin brothers, Ray and Roy Woods. One was scheduled to play quarterback; the other, guard.

Sports reporters assigned to cover the Villanova games this fall are hoping that the draft or lightning or something will help them out of a spelling difficulty. It is rumored that Coach Clipper Smith is planning to use a sophomore backfield composed of Pezelski, Zamlynski, Koproski and Dzitsof. Imagine broadcasting a flea-flicker with that combination handling the ball!

The west coast has a similar problem. Coach A. A. Stagg of the College of the Pacific will have one Wojtkiewicz Wojciechowicz (to his friends, "Bow Wow" for short) on his freshman squad. Yes, W. W. is a brother of the famous Alex, erstwhile All-American now centering for the Detroit Lions.

Sports heroes have been a dime a dozen this summer, but for the prize competitor of the lot we nominate 15-year-old Bobby Falkenburg, the Hollywood, Calif., boy-wonder of the tennis world. He ran off with most of the boys' tennis prizes in the country, despite the handicap of playing with a broken left wrist in a cast reaching from his elbow to his fingers.

For runner-up honors there's Nancy Merki. The 14-year-old Portland, Ore., girl lowered the American record for the 1,500 meters to 22:12.2, approximately 17 seconds below the old record. Nancy's achievement is all the more remarkable when you remember that for the first eight years of her life she was a cripple.

How would you like to reach for a glass of water one morning and have a bathing suit pop out of the faucet? (See above illustration.) We admit this is farfetched; yea, even fantastic. But we've been allowing our imagination to run riot since we heard that the women's national diving championships were held in a reservoir at High Point, N. C.

It seems that High Point's magnificent municipal pool, scene of the swimming events, proved a mite shallow for the divers, and rather than give up the platform events to a rival township the Chamber of Commerce ingeniously hit upon the idea of rigging up the reservoir for the occasion.

The idea proved a knockout. The divers dove, the good burghers cheered—and the water remained as pure as driven snow.

Hurley, Wis., is celebrating the construction of a new \$100,000 gymnasium. Coach Roy Melvin is jubilant. His friends are pointing out that this is one of the few breaks the veteran mentor has had in his seventeen years at Hurley.

Statistical Notes Or Not That It Matters Anyway Department: Alfred Letourner rode a bicycle at the rate of 108.92 miles per hour. He was paced by an automobile that had a specially constructed shield attached to the rear for a windbreaker. The AAA having nothing else to do on a dull day timed the unusual event.

It is possible to arrange nine baseball players in 362,880 different batting orders. This helps explain the versatility of some big league managers in such matters.

A stopwatch enthusiast clocked Bob Feller's fast ball at 127 miles per hour, a tennis ball from Bill Tilden's racket at 118 miles per hour, and a golf ball from Gene Sarazen's driver at 120 miles per hour. Well?

Thirty-five-year-old Dr. Harry K. Newburn, who used to tote a football around with considerable abandon for

Western State Teachers' College, Macomb, Ill., has just been appointed Dean of the University of Iowa's College of Liberal Arts. About a dozen years ago Professor Newburn was an All-Conference quarterback in the Little Nineteen. Apparently he has developed the habit of calling the signals wherever he goes.

Galesburg, Ill., has a one-man track team in Morris Campbell. Last spring he expressed a willingness to try any distance from 100 yards up to and including the mile. Before the season ended he demonstrated real ability in all of the running events.

Galileo High School of San Francisco is proud of its list of present-day athletic stars: Lawson Little, Joe DiMaggio, Hank Luisetti, and Grover Klemmer, the new 440-yard world's titleholder.

Thornton Township of Harvey, Ill., boasts a similar imposing array of talent: Ed Beinor, former Notre Dame great; Betty Robinson, Olympic sprint champion when such things were possible in a less troubled world; Marian Mansfield, one-time national low board diving champion; and Lou Boudreau, former Illini basketball star and now with the Cleveland Indians.

Is there any other school that wants to get in on this listing? Calumet, Mich., might rate with George Gipp and "Hunk" Anderson as starters.

Has anyone seen Jim Thorpe's scrapbook containing the clippings covering his football and Olympic Games exploits? The famous Indian athlete thinks he left it in some clothing store in the Chicago Loop back about 1928.

Look now, since professional writers haven't produced as yet that top-notch swimming or diving story, how about one of you coaches taking your pen in hand to show just how the job ought to be done?

Gloria Callen's record-breaking victory in the backstroke at High Point was her fourth national title in the past four years. The odyssey of this tall, beautiful, Nyack, N. Y., High School junior reads like a dream. Besides her four national titles, she's placed in every national championship meet since she was twelve and cracked no less than 12 of the 20 standard backstroke records.

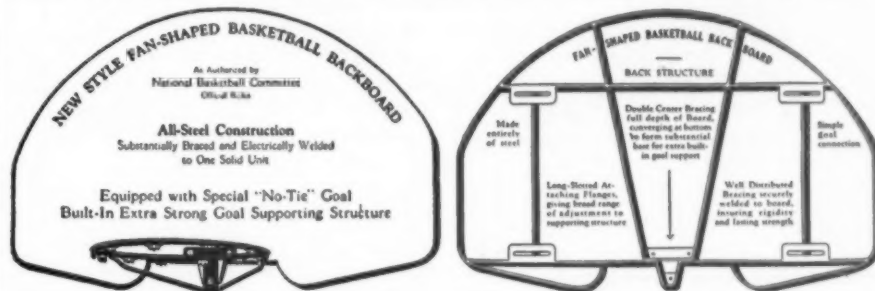
Although Gloria's only 17, she's been competing for 11 years. At the tender age of six she was a star member of the Stamford, Conn., Yacht Club swimming team!

Home Runs for Defense: All baseballs hit into the stands at Swayne Field, home of the Toledo Mud Hens, and returned by the fans are being sent to army camps by the club management. What a break it would be for the army if the N. Y. Yankees adopted such a rule.

BILL WOOD

Streamlined Basketball Equipment Can Be Practical, Too

Legalization of the modified, or fan-shaped, basketball backboard for optional use has resulted in steadily increasing acceptance of this new type equipment by representative schools and colleges who appreciate its various advantages such as increased visibility of the basket from corners and ends of the gymnasium, greater playing freedom around end sections, pleasing streamlined appearance, etc. The Nonpareil organization has devoted much study to development of a modified board and suitable goal that would not only possess the desired modern lines, but that would also be thoroughly practical and constructed to insure lasting service. The new backboard and goal outfit shown below is, therefore, offered with confidence that it will admirably fulfill every requirement.



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lined with ring; short upturned bracket flange, which cannot be touched by ball. Entire goal electrically welded to one piece and baked black enameled. Can also be attached to rectangular backboards if desired.

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Scouting

(Continued from page 30)

they line-up the same way all the time or do they shift their backs around?

5. What are the characteristics of the men? Who carries the ball on off-tackle plays? On end sweeps? On bucks through the line? Who does the spinning and ball-handling on reverses? Is he clever at it or does he expose himself? How well can they run and to what side do they run the best?

6. How good is the quarterback. Is he apt to be unorthodox and pull plays when you least expect them or does he follow the customary principles of strategy?

7. Who does the kicking. How far are the kicks? Are they high or low? Does he take much time to get them off? How far back does he stand? What kind of protection does he get? Are his kicks ever blocked or come close to being blocked? Who is his substitute and what are his characteristics?

8. Who does the passing. Does he pass fast and bullet-like or does he lob them to his receivers? How accurate is he? Who does he throw most of them to and how good are his receivers? Does he throw them down the middle, to the flat regions or down-field? Does any other member of the team pass?

9. Do they use deceptive plays much or do they concentrate on straight orthodox football? On what part of the field do they usually pass? On what down can you expect a kick? Do they use a quick kick and how often?

10. How do they line up on defense. Do they change their defensive formations? How good are they on pass defense? Have they any vulnerable areas? What line weaknesses do they have?

If spinners and trap plays are working well, the scout should try to map the various assignments in detail so that the coach can get an idea on how to construct a defense for them. If the opponents use spread formations, a good account must be given of how the men are positioned and what plays may be expected from each formation.

After scouting the game, the next important factor is drafting the final report. This should be prepared in such a clear, simple and concise manner that the coach will be able to determine quickly everything he needs to know for his preparation work.

I find that a large-scaled formation of the team, showing all the numbers and individual character-

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istics, is more practical and understandable than a sheaf of written material. It also makes it easier for the boys to follow. After all, high school boys cannot be expected to digest book-length reports on their opponents and at the same time remember their own plays and strategy.

Too much information may be as detrimental as none at all. The enemy's formations and plays should be outlined in a manner that will give the boys an idea of what to expect when certain men assume certain positions, what directions the plays will go, when the passes are thrown and the paths of the various receivers. The detailed account should be left for the coach.

Cross-Country

(Continued from page 33)

with very little apparent effort.

I generally bring home the point by illustrating that a car can make a grade in high speed much easier by getting a good start. Have the boys shorten their strides while climbing. Stress a forward lean, but keep it within reason.

On downgrades the boys should relax. Don't let them fight their speed down the hills. Their weight should not be thrown back as a brake. Neither should it be carried too far forward as this may lead to stumbling. The legs must be relaxed, not taut.

Encourage the boys to breathe in through the nose and out through the mouth. This helps delay the drying out of the mouth, a condition which seriously bothers many runners.

At this early stage I stress relaxation of the shoulder and neck muscles. This point cannot be over-emphasized. When the shoulder and neck muscles start to tighten, the stomach muscles tighten with them and then you have trouble.

I like the Finnish style of arm carry with the elbows away from the body and only a slight arm action. I discourage a high knee lift and kick up. I want my boys to hit on the ball of the foot with the heel coming down almost at the same time.

This close attention to detail during the first few weeks of practice has paid dividends for me. I am certain it has contributed much towards our record of six championships in the past eight years.

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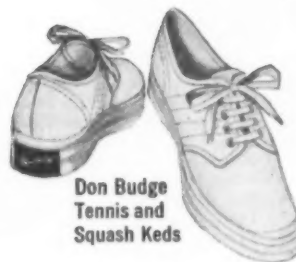
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National Federation Notes

SIGNIFICANT developments have been noticed in several of the southern states. In Florida the state high school athletic program has been considerably extended. The association will sponsor an athletic accident benefit plan and will inaugurate a plan for registration of officials. All of this work will be handled through the office of Secretary LaFayette Golden.

The benefit plan is patterned after those which are being followed in other states. A special act of the legislature legalized the inauguration of the plan under direct control of the state high school association.

Georgia is now operating under a type of organization which has succeeded in centralizing some of the authority previously scattered among various districts. The work of the association will now be carried out in the office of Secretary S. F. Burke at Thomaston. Heretofore there has been a division of work so that part of the clerical work was done in the office of the secretary and part of it at the University of Georgia. The high school administrators have now authorized a type of organization which will result in a strong state association under direct control of the high school members.

Among the additional work which will be started this year is the registration of officials, a revised tournament plan and a more comprehensive plan for the sanctioning of meets and tournaments. The state has also adopted the interscholastic football rules for use in 1942 and a series of interpretation meetings for both basketball and football will be sponsored.

Sale Lilly of Belzoni is the new president of the Mississippi state association, which cooperates closely with Louisiana, Alabama, Georgia and Florida.

The new National Federation handbook is filled with information relative to eligibility rules, state association activities and National Federation policies. The handbook may be secured from state executive officers.

Here are a few facts gleaned from the book: eight states now set the maximum age limit at 19 years but with the privilege of finishing a given sports season if the birthday falls after the beginning of such season. Pennsylvania and Utah will operate under this rule for the first time this year. 13 states have full-time executive officers and Illinois has three full-time officers in addition

to a full-time manager of girls' athletics. 16 states have monthly printed journals. 37 states are members of the National Federation and these states have 16,232 member high schools.

State-association-sponsored football and basketball clinics are growing rapidly. The Kansas Activities Association inaugurated the practice several years ago. The school has grown in popularity and has proved to be a valuable part of the high school athletic program. This year Iowa inaugurated a similar school, at Boone during the latter part of August. Similar schools were held at Huron, S. D., and at Grand Forks, N. D. Both these schools were jointly sponsored by the state university and the state high school athletic association.

In all these clinics part of the time was devoted to problems connected with officiating and rules study. A number of high school athletic directors and coaches have become quite active in connection with the instructional phase of such schools. Among those who appeared on the program at Iowa, South Dakota and North Dakota were athletic director Wilbur Petree of Calumet City, Ill.; William Strickland, athletic director at Macomb, Ill.; and H. L. Ray, technical advisor for the Interscholastic Football Committee and for the Professional Football League.

The annual meeting of the National Federation will be held in connection with the meeting of the American Association of School Administrators at San Francisco on Monday, February 23.

H. V. P.

New Backboard

THE smaller type backboard is now considered standard equipment. The current basketball code calls for its installation in all new gymnasiums and in all present buildings as soon as it becomes feasible. The action of the National Basketball Committee was taken after a national poll last spring showed a supporting vote of more than five to one and a vote among Committee members of fourteen to one.

The fan-shaped board contains all the space needed for banking purposes. At the same time, elimination of all sharp corners and edges prevents injury to the ball, gives rise to new skills and strategies and is economical as the elimination of

more than half (57 percent) of the surface of the old board removes most of its tendency to warp.

As a result of the new boards, improvements have also been made in basket construction. The new baskets are attached to the back surface. This leaves the front face entirely clear and makes the ring stand out as a clear target.

A set of standardized measurements has been adopted for attaching the basket to the backboard. The primary purpose is to make any legal basket fit any legal backboard without the use of cumbersome and unsatisfactory gadgets.

Following is the recommended standardized attachment:

1. For attaching basket to backboard each official board shall be provided with a smooth surface or with an attachment plate on the back surface. The thickness of the board from front face to back face of the attachment plate shall be 1½ inches.

2. The attachment plate shall have holes as follows: two holes with centers 1½ inches each side of the center of the board and located with centers 4 15/16 inches above the center of the arc; two holes with centers of 1 13/16 each side of the center of the board and located with centers ¾ of an inch above the center of the arc; two holes in the arc flange on radius which is 13½ degrees from a perpendicular with the floor and with centers ⅝ of an inch from the face of the board.

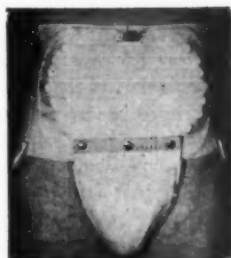
3. All holes shall have a minimum diameter of 7/16 of an inch and maximum diameter of 9/16 of an inch. Attachment bolts are to be ¾ by ¾ inches, minimum of four per backboard, and are to include lock washers.

These specifications do not necessarily apply to glass boards since special consideration must be given to such boards due to minimum hole spacing requirements of glass. Also, on wood or plastic boards, attachment may be by lag screws but proper plate area as prescribed must be provided.

Each official basket must include an attachment plate which will fit the plate as specified for the official backboard and which will have holes corresponding in location to at least four of the six holes provided in the attachment plate and the arc flange.

The distance from the inside edge of the basket ring to the nearer surface of the attachment plate must be 7½ inches and the lower holes of the plate must be centered 1¼ inches above the level of the top of the basket ring.

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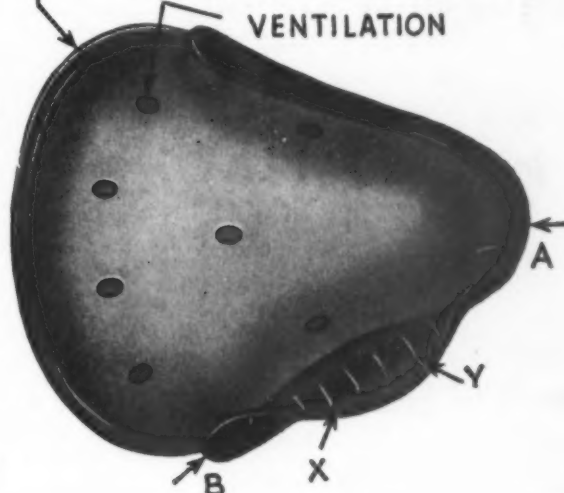
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Bernie Bierman

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University of Wyoming

IN FOOTBALL as in total war, the advantages of the offensive are well attested by experience. To compel your enemy to conform to your move, rather than supinely waiting his; to seize upon an opportunity and exploit it to your gain; to make time serve your purposes rather than allow time to be the ally of your foe—these are the keys to victory, these are the only means by which that elusive goddess may be wooed and won.

Bernie Bierman, the guiding genius of the powerhouse Minnesota football teams, subscribes to these theories. He is an offensive-minded coach, who believes in spending the great majority of his time on attack. At the University of Wyoming Coaching School, he advanced two reasons for his credo: first, he believes offense is harder to teach than defense; and, second, by controlling the ball most of the game, you make it tougher for the opponents to score.

Bierman strongly approves of the use of a shift, particularly the "primary" type. By this he means that the team should come out of the huddle all set to start an offense, rather than go into an illegal formation and be required to shift. Being legally set at the earliest moment and then shifting puts an additional burden on the defense. They must be ready to meet an attack the moment you come out of the huddle.

The Gopher coach equips his team with as many plays as they can comfortably handle. He comes by quite a few more plays than most coaches by keeping the assignments and nomenclature as simple and as nearly identical as possible.

In building an offense, he asserted, the wise coach adapts his tactics to the quality and ability of the personnel. To achieve the most possible deception, all plays should dovetail. The play repertory should be extensive enough to meet any possible defensive alignment. These plays should resemble and complement one another.

Bierman advocates a lunging side-step start for the backs. He maintains this gives them a much faster start. Three-fourths of the plays should get to the line of scrimmage as rapidly as possible. Aggressive blocking, even on the so-called check blocks, is essential at all times.

In the ideally-built attack, the tailback as well as the fullback has a play for every hole in the line. The ball-carrier hits inside the hole and runs as close to the interference as possible. The stress is on power running rather than dodging and other fancy footwork. Whenever dodging does become necessary, the runner does not start swerving until he reaches the opponent.

A close linebacker is treated as a lineman rather than as a member of the secondary. Bierman lays stress on one-on-one blocking to release more men for downfield blocking. He works on the assumption that the offensive team can handle the defensive line in most instances and that the real problem is to handle the linebackers and other members of the secondary. He will send the left guard through for the linebacker if he can get a good shot at him. Otherwise, he will bring him around.

Downfield blocking

There are two fundamental faults in most downfield blocking; the blocker will go down too deep, or he will not go down at all. Bierman emphasizes the importance of working only on the men who are at the focal point of attack *when the play develops*, and not worrying about men who are close to the play only *when it starts*.

Coaches err in sending men through for specific defensive players, instead of coaching them to block only the players who are at the point of attack. Stress should be placed on the importance of getting in front of the linebacker and, for linemen coming from the opposite side, intersecting the path of the runner as near the line of scrimmage as possible.

More can be gained by coaching the blockers to take the first man in the path of the ball-carrier, than by assigning them to specific players. All Gopher linemen are urged to release their blocking along the line of scrimmage and get down the field in a path roughly parallel to that of the ball-carrier.

All downfield blockers should stay on their feet until the last possible moment, as all downfield blocking must be relatively high. A player is of no value when he leaves his feet. The actual force of the block is not applied until contact is established. Until this moment all movements are directed to the de-

ployment into blocking position. Downfield blockers frequently err in lunging after the defender and in not determining the location of the ball-carrier.

Minnesota linemen do their best to complete any assignment along the line of scrimmage, but never retreat in an effort to rectify a mistake. Rather than waste time picking up the man they lost, they go downfield to pick up another man.

A great deal of time should be spent with the quarterbacks, as poor play-calling may cost you three or more touchdowns. The field general must know thoroughly every man's assignment on every play. When questioned on an assignment he should be able to rattle it off without the slightest hesitancy.

A good quarterback knows his personnel and their abilities. He knows the different values of yardage under different conditions; when it is vital to play for large gains and when it is necessary to play for small gains. He must think ahead of the play, reckoning what the outcome will be if it's successful and what it will be if it fails.

The quarterback must build up his inside plays by making a success of his outside plays. He is encouraged to make six yards on every first down. He must have a definite reason for calling any particular play. The coach should keep a running record of his quarterback's choice of plays, and all other pertinent statistics on the total advancement of the ball, for every game.

Bierman believes there should be a fundamental tie-up between the end run and the passing game. Good deception may be achieved by running the end and then passing in the same series with a running pass check. The potential receivers are encouraged to break fast and cut angles sharply, and not to run in circles.

Most pass receivers prepare to catch the ball before it gets to them. This is a poor practice for two reasons: it slows up the receiver and it tips off the defenders. The receiver should run at the proper speed with a normal arm action until he reaches the point at which the catch is supposed to be made; then brings his hands up at precisely the right moment. Most passers wait too long to release the ball, giving the defender an opportunity to overhaul the receiver and deflect the pass.

The passer should throw from many different spots and have a definite spot to throw to on all passes. He should be able to fake well in one direction and throw in another. Defenders who make a habit of sticking too close to the cutter may

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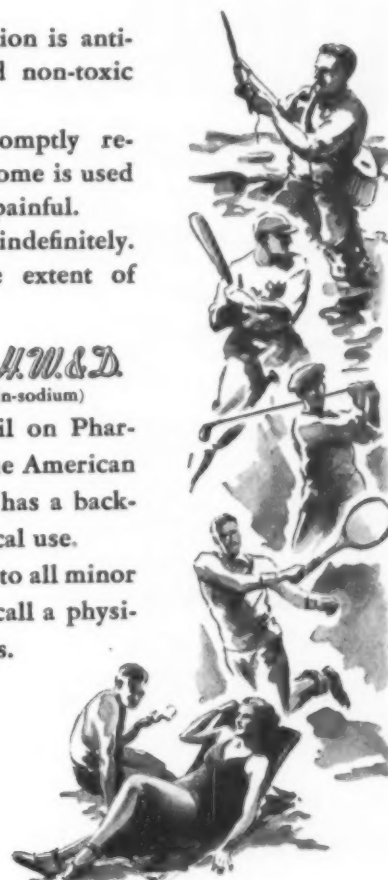
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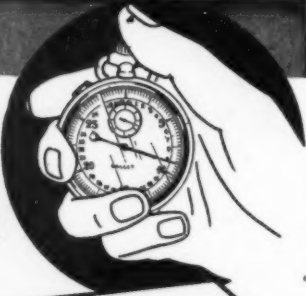
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be loosened up with the threat of laterals.

Insofar as lateral passing is concerned, all of the responsibility is placed on the passer. The ball is thrown from the chest in basketball fashion, rotating on the short axis to insure better direction. The passer is not allowed to throw until actually hit by a tackler, and then only if he has a clear field in which to pass.

Bierman devoted a considerable part of one lecture to a detailed description of the kick-off return. He believes in spending a great deal of time on it, as it is a complicated affair and a comparatively easy way to gain ground. It requires as much, if not more, practice than any other play in the book. Minnesota considers its kick-off return a failure whenever the runner fails to get back to at least the 40-yard line.

All men are given specific assignments on the kick-off. Every man knows precisely what is expected of him and how the assignment is to be carried out regardless of where the kick goes. The receiver always races as far up the middle as he can. Sometimes he will continue up the field. Often, however, this is just a fake; the ball-carrier veering off to one side of the field. Some form of wedge is normally employed, with the men not actively engaged in the wedge blocking the opponents away from it.

In kicking off themselves Minnesota does not send everybody down in an even line. Bierman likes to send his boys down in waves, so that the defense will have depth.

Gopher defense

Defense at Minnesota is played in a very aggressive fashion. The line-men are encouraged to study the tactical situation, but never to try to outguess the attackers. They're taught to get across the line of scrimmage rapidly and aggressively, and to drive and work toward the ball with a minimum of fancy-dancing. The halfbacks are encouraged to meet the play on the line of scrimmage, as soon as they're sure it's no pass, but always from the outside.

There is a great tendency among linebackers to play too close to the line and thus expose their flanks. A rotary system of backing each other up should be worked out for the secondary to prevent any cutbacks from going for a touchdown. To eliminate the possibility of error, every back should be given a definite assignment.

Bierman stated that for several years he played nothing but a

6-2-2-1, playing the strongside halfback as close to the line of scrimmage as he dared, and under- and over-shifting the line to meet the concentration of power. Recently, however, he has been varying his line defense to include a five, but never a seven.

In working out an adequate pass defense it is vital to spend a lot of time with the individual members of the backfield before taking up team play. The defender must never lose sight of the ball and must have a great deal of agility to cover his position. While keeping his eye on the ball, he must at the same time line up the prospective receiver between the passer and himself.

Many defenders mistakenly try to play the receiver too close. They should stay far enough away from him, about five yards, to allow themselves enough leeway to cover in any direction the runner cuts. Except in very rare instances it's always well to play for an interception rather than a deflection.

The passer should be rushed with the idea of putting pressure on him. The passer is a ball-carrier as long as he has the ball in his hands, and must be treated as such. The ends should rush the passer from the outside in, keeping him abreast of their inside shoulder. Bierman favors a combination man-to-man and zone with checkoffs as a general pass defense.

Bierman stressed the vital importance of organization. The average coach spends a relatively short time with his boys each day. To make every minute count, a great deal of time and thought should be given to the organization of the practice sessions.

First, a careful survey of the personnel must be made to determine the type of offense to adopt. The eleven best players should make up the varsity, regardless of what positions they go out for. Both teaching and learning may be simplified by making the defensive line play as much like the offensive line play as possible.

Be careful of too much scrimmage. Don't scrimmage the men who are playing the schedule. It's a good idea to scrimmage young teams, but never old teams. Coaches should emphasize the various phases of dummy scrimmage. Excellent use can be made of mobile dummies which can be moved around and held in the required places by the players. The defensive men should always be deployed in the toughest possible positions for the blocking team.

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Diet for Football

(Continued from page 40)

not recommended for pre-game lunch.

Meat. Easily digested meats may be served at breakfast in the place of eggs; not recommended for pre-game lunch.

Vegetables. Same as daily diet; sweet potatoes, beets and carrots especially recommended.

Fruits. Same as daily diet; avocados, dates, figs, raisins and bananas especially recommended.

Remainder of Diet. Same as daily diet; soybean bread, sweetened chocolate and molasses especially recommended.

Foods which are not recommended in the pre-game diet because of their acidic effect include cranberries, plums and prunes. Rhubarb, chard, spinach, beet leaves, cocoa and tea contain oxalic acid which is poorly oxidized and prevents utilization of an equivalent amount of calcium.

Dietary tips

The effects of various dietary habits, special foodstuffs and drugs upon the performance of athletes should be reviewed scientifically before they are accepted as dietary guideposts by the coach and trainer. A few recent scientific conclusions on popular dietary theories follow:

1. Sugars and starches in themselves are not harmful, but excessive consumption usually leads to a neglect of other foods rich in vitamins and minerals.

2. Poisoning or injury from food combinations (oysters and ice cream) is unknown.

3. Sugars and starches mixed with proteins are present in practically all natural foods. When eaten together they supplement each other beneficially, rather than cause disturbances.

4. The athlete needs about the same amount of protein as a person of sedentary habits, but more carbohydrates and fat.

5. Moderation should be exercised in the use of raw vegetables. Excessive amounts may prove irritating.

6. In general vegetables, eggs and meats are more nutritious when cooked.

7. Excessive amounts of cellulose, as found in large quantities of coarse roughage, may be injurious by causing irritation through impaction in the gastro-intestinal tract, especially the colon.

(Continued on next page)



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8. Instinct cannot be relied upon in the selection of the best foods. A reasonable amount of discipline and intelligence should be exercised in the selection of a good diet.

9. White bread is a wholesome food, particularly valuable in supplying energy. Whole grain cereals furnish more minerals and vitamins, particularly of the B-complex group, but these factors may also be supplied by other foods in a well-balanced diet which includes white bread.

10. Nuts provide a good source of several essential nutrients, but they are not complete in all the essentials needed in the diet.

11. The freezing of foods does not impair their nutritive value, but may help retain their vitamin and mineral content.

12. Even a small amount of alcohol is definitely detrimental to skill exercises. Larger amounts are detrimental to muscular performance. Alcohol cannot be recommended for use by athletes.

13. Fruit juices may be helpful in building strength and endurance as long as they supply the needed amount of minerals and vitamins.

14. Ingestion of salt (sodium chloride) tablets does not supply extra energy and endurance. Addition of salt to the diet is only a precautionary measure against salt depletion due to loss through sweating.

15. Sugar has been found to lessen fatigue during prolonged work. Ingestion of large amounts of sugar often causes severe gastric disturbance.

16. A lack in vitamin B and C causes a drop in physical fitness and in athletic performance. There is no adequate evidence that an excess vitamin supply increases athletic performance.

17. Although as much as a gallon of water may be taken at a meal without discomfort, ordinarily it is well not to take more than one or two glasses. Water should not be taken while food is in the mouth, as chewing will be inadequate if water is used to wash the food down.

18. A large quantity of cold food or drink may derange the blood supply of the stomach, hampering digestion and perhaps elimination.

19. Athletes too tired to eat should not attempt to eat heavily nor simply omit the meal. The remedy often lies in a short rest.

(For further information on the athletic dietary, watch for Dr. Morehouse's article next month on "Food for Action.")

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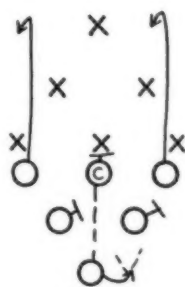
Six-Man Spinner

(Continued from page 17)

the kick, while the No. 1 and No. 2 backs fan out towards the sidelines to prevent any long run-backs.

To add deception to our attack we've tacked a few trick plays and passes to our regular kick formation. The fake kick in **Diag. 15** is a carry-over from the eleven-man game. The punter takes his steps, brings his leg up but instead of kicking thrusts the ball backward. The No. 2 back goes around him and plucks it out of his hand.

Most of the pass plays that were shown in the single wing series may easily be adapted to the punt formation, particularly the zone and criss-cross passes outlined in **Diags. 12 and 13.**



Diag. 16

If you have fast ends, the long pass in **Diag. 16** is a good gamble for a score. If the ends are unable to shake themselves loose on this play, a smart quarterback will cross up the defense with a spot pass. On this play the ends race five steps at top speed, the passer counting with them. The ends then pivot and head back for the ball which is already on its way.

I advise the bullet type of throw for your passing game. You may

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| <input type="checkbox"/> Samples: Perchloron, Tilitite | WILLIAM SKINNER & SONS (27) | <input type="checkbox"/> Booklet, "Jock Sutherland's Winning Plays" |
| PETERSEN & CO. (55) | <input type="checkbox"/> Information on Fabrics | WESTINGHOUSE ELECT. MFG. CO. (36) |
| <input type="checkbox"/> Catalog on Gym Mats, Football Dummies, Wrestling Mats | A. G. SPALDING (1) | <input type="checkbox"/> "Sports Floodlighting Planning Book" |
| JULES RACINE (52) | <input type="checkbox"/> Football Catalog | WILSON SPORTING GOODS (12) |
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| RAWLINGS MFG. (23) | <input type="checkbox"/> Facts on Bread | W. F. YOUNG (38) |
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| RCA MFG. CO. (21) | <input type="checkbox"/> Bulletin on Care of Floor | <input type="checkbox"/> Sample, Absorbine Jr. |
| <input type="checkbox"/> Catalog on Public Address Systems | UNITED CLAY MINES CORP. (52) | |
| | <input type="checkbox"/> Bulletin, Field Marker | |
| | UNIVERSAL BLEACHERS (32) | |
| | <input type="checkbox"/> Catalog | |

NAME _____ POSITION _____
(Principal, coach, athletic director, physical director)

SCHOOL _____ ENROLLMENT _____

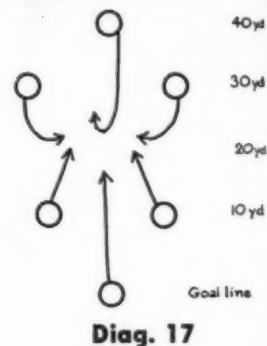
CITY _____ STATE _____

No coupon honored unless position is stated

September, 1941

have more incompletions with this pass but the number of interceptions will be surprisingly low.

As a rule don't send the center out on passes. He is more valuable in the line as a blocker. Keep him there. Another good idea, especially if you have a poor or a slow passer, is to keep the No. 2 man back an extra pass protection.



Not the least effective of Chattahoochee's scoring plays is the wedge method of returning the kick-off outlined in **Diag. 17**. Last season Captain Gholson contributed no fewer than seven touchdowns on returns of kickoffs.

In this plan the center lines up on the 40-yard line, the ends on the 30, the halfbacks on the 10 and the star ball-carrier on the goal line.

Coaches who are planning to adopt the spinner system should look for a fairly large-sized center, good ball-handling backs and a tail-back who is a triple threat. Do not start the season with too many plays. Pick up a few good basic plays and add others later.

GET GOING WITH GILMAN GEAR



Pneu-Comeback

Patent 2,237,500

Dual purpose dummy. . . Has all advantages of Comeback in pneumatic form. . . Weighs only 60 pounds and up. . . Always stands up, never lying. . . Releases men.

Send for New Catalog

Marty Gilman

GILMAN, CONNECTICUT

Use Plus (+) or Minus (-) as Weight Changes

Check Your Weight Regularly

NAME & AND WEIGHT →

[illegible]A dark gray, almost black, grid pattern covering the entire page. The grid consists of thin, dark lines forming a uniform square pattern. The lines are evenly spaced and extend across the entire width and height of the image, creating a dense, repetitive geometric texture.

One of the country's top-notch university teams put Knox Gelatine on its training table—required all

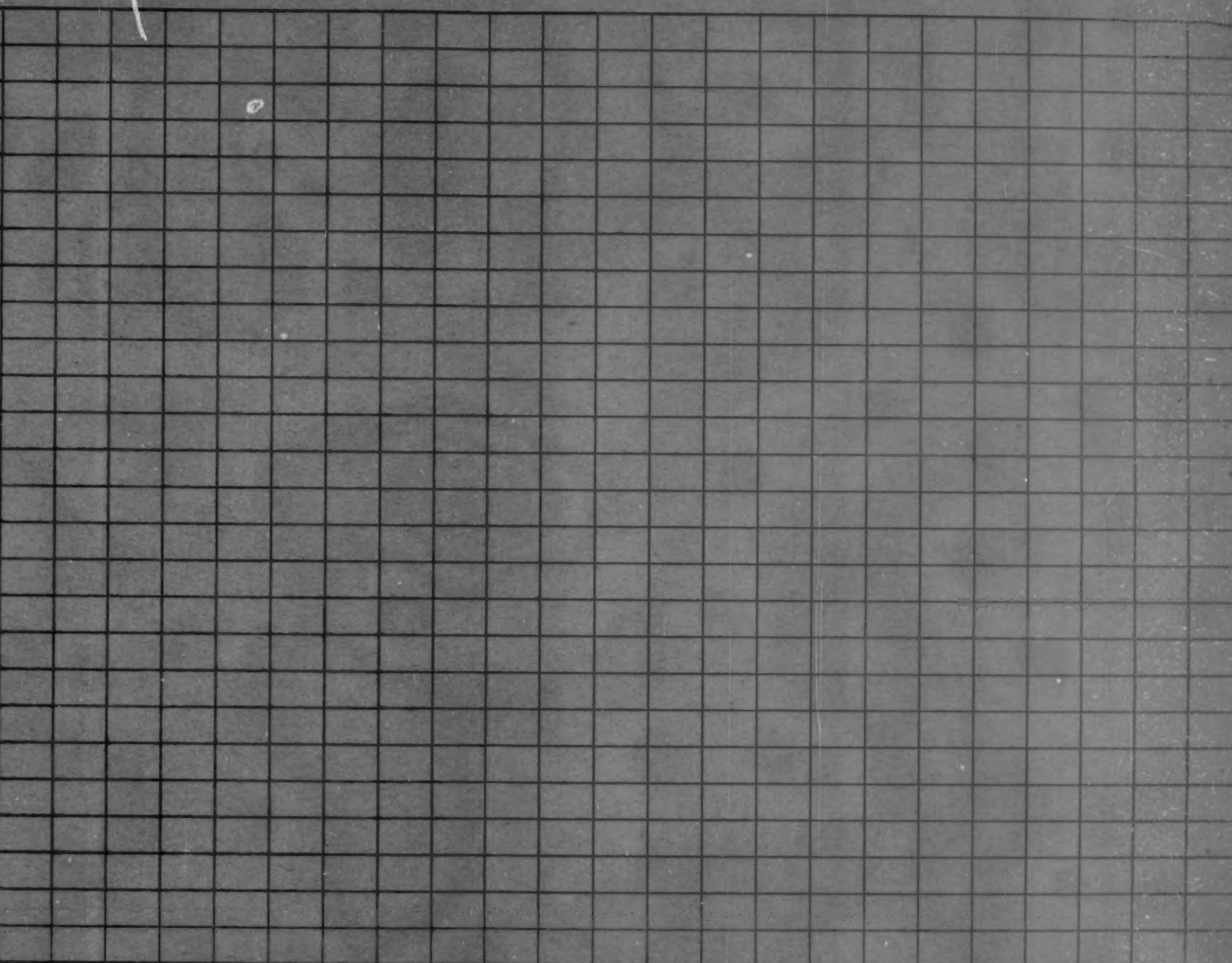
Now, trainers in many colleges and universities from coast to coast make Knox Gelatine a "must" on their training tables (or in the locker rooms). Many leading coaches and trainers are enthusiastic over the benefits of drinking Knox.

Copyright, 1941, Knox Gelatine Co., Inc.

CHART

*Post On Your Locker
Room Bulletin Board*

THIS CHART IS EASILY REMOVED FROM THE MAGAZINE



KNOX GELATINE ROUTINE FOR ATHLETES IN TRAINING

1. Two tablespoons twice a day for 10 days. Take before and after practice period. Or, if squad has 2 practices a day, such as football, take after each practice.
2. Then, two tablespoons once a day. Take after game or practice period, preferably after shower.
3. If an individual shows loss of weight, try increasing the feeding by two extra tablespoons a day.
4. The recommended way to take the gelatine is in plain water (room temperature), or grapefruit juice, or grapefruit juice and water may be mixed 50-50; 4 oz. of water and 4 oz. of grapefruit juice. Pineapple juice may be substituted for grapefruit juice.

5. HOW TO MIX:

- (a) Pour onto the liquid 2 level tablespoons of Knox Gelatine.
- (b) Let liquid absorb the gelatine.
- (c) Stir briskly and drink before it thickens.

THE KNOX GELATINE DRINK FOR INDIVIDUALS

Drink 4 envelopes of Knox Gelatine every day for 2 weeks, then 2 envelopes a day for 2 weeks. After that, as required. Pour 1 envelope ($\frac{1}{4}$ pkg.) Knox into glass $\frac{3}{4}$ filled with water or fruit juice, not iced. Let liquid absorb gelatine. Stir and drink immediately. If it thickens, stir again.

TRAINING RULES FROM 4 TOP-NOTCH COACHES AND TRAINERS

HOW TO KEEP IN CONDITION

1. Start the season with light workouts, increasing your activity daily.
2. Try to make your workouts resemble game conditions as closely as possible.
3. Take two to three weeks for pre-season training.
4. Eat plenty of good wholesome food—get plenty of sleep—and work just enough, not too much.
5. Keep happy and contented by varying your work.
6. After hard competition, rebuild yourself by a short layoff, a full diet, and complete mental relaxation.
7. Relieve sore muscles by frequent rubs with reliable preparations.
8. An athlete wins on his feet. Watch your footgear, take care of bruises and blisters, bathe your feet regularly. Take every precaution to prevent athlete's foot.
9. Start the day with a warm shower, followed by cold, and a brisk rub-down with a coarse towel.
10. Use sanitary equipment of good quality.

WEIGHT AND ITS REGULATION

1. Weigh yourself daily and keep a chart.
2. After the first 10 days of team practice, your weight should be constant.
3. If you lose weight too rapidly, cut down on your exercise and eat more fats, sugars and starches. Drink more milk.
4. If you gain weight due to exercise, do not be disturbed. This is not excess weight, but a natural increase for you.
5. To maintain your proper weight, stick to a regular diet. Eat meat not more than twice a day, whole grain cereals once a day, and plenty of fresh fruits and vegetables.
6. Unless you are underweight, do not eat between meals and before going to bed.
7. During exercise, drink little or no water.
8. Do not reduce to make yourself eligible for a special weight class.
9. Remember, all weights given on charts are "average." Use them merely as a guide, and guard against too great a loss or gain.

CARE AND PREVENTION OF INJURIES

1. Two to three weeks of pre-season training is necessary before strenuous competition.
2. Build yourself carefully during this pre-season training, with emphasis on proper diet and SLOW conditioning.
3. Weigh yourself daily, and regulate your diet and exercise program in accordance with loss or gain in weight.
4. Use special exercises to strengthen trunk, legs, knees and ankles.
5. Wear equipment that will give you maximum protection.
6. Before starting training for any sport, be examined by a reliable physician to determine your fitness.
7. Sanitary equipment helps prevent boils and skin infections.
8. Proper treatment of bruises, abrasions, and wounds will prevent serious developments.
9. In case of injury, consult your physician promptly. Apply first aid at once.
10. Learn all you can about the methods used by successful athletes. They know many ways of preventing injuries in sports.

RULES FOR YOUR TRAINING TABLE

1. Select foods that build or repair tissues, supply energy, generate heat, and provide vital substances which are indispensable in the preservation of good health.
2. Tissue builders are meats, eggs, fish. Energy producing foods include sugar, whole-grain cereals, starches. Heat producing foods are butter, oils and meat fats. Essential constituents of the body cells are fruits, vegetables, meat and milk.
3. Regulate your heat producing foods by the climate you are in—less in warm climates and more in cold.
4. Do not overeat. Let your weight and size determine the amount of food you eat.
5. Eat your meals at regular hours—and relax after eating.
6. Drink plenty of water, but use it sparingly during exercise periods. Fruit juices help to relieve that "thirsty" feeling.
7. Milk is a nourishing and easily digested beverage.
8. Vary your diet. This helps you to obtain important minerals and vitamins.
9. If you lack appetite, watch out for staleness. Missing a meal occasionally may do you more good than harm.
10. Be rested when you come to the table. Cultivate leisurely eating.

GRID STARS NEED PLENTY

OF STAYING POWER

Have Them Try Drinking KNOX GELATINE

As Part of Training to
Help Keep in Condition!

Football season's in full swing! And coaches and trainers in scores of colleges are having their athletes drink Knox Gelatine regularly as a supplementary protein food concentrate.

Naturally, Knox doesn't claim to make a team win. But many coaches and trainers have reported that when athletes receive Knox Gelatine regularly, they seem to keep in better condition.

Try Knox Gelatine—But Be Sure It's Knox!

Strenuous physical activity has always been associated with the necessity for a liberal protein diet. Knox is an excellent supplementary protein. Give it a trial on your training table. Have your athletes drink Knox regularly.

But be sure to insist on plain, unflavored Knox Gelatine—and only Knox. Don't confuse Knox with ready-flavored gelatine dessert powders, which are $\frac{1}{8}$ sugar, only $\frac{1}{8}$ protein. Knox is all body-building protein; it contains no sugar.

Knox Gelatine comes in the regular 4-envelope kitchen package or the new money-saving 32-envelope package.



FREE: For more details about the Knox Gelatine Drink, write for FREE Booklet E, Knox Gelatine, Dept. 81, Johnstown, N. Y.



KNOX GELATINE

A SUPPLEMENTARY
PROTEIN FOOD CONCENTRATE



A WEIGH TO HEALTH!

• An athlete who wants to know how "fine" he is, can find out by watching the scales. If his weight goes off, his game may go off. On the following pages, trainers, coaches, and ambitious boys who intend to be athletic stars will find a convenient weight chart. This chart, prepared by the Charles B. Knox Gelatine Company, Inc., simplifies the recording of necessary weight figures.

Whatever the underlying cause, the first weight reduction that goes up on a player's chart should be a warning signal. For loss of weight and failure to regain weight cause an athlete to go stale. That's why a weight chart of this kind is so necessary. And since the chart is a training index for a team, it gives the coach an opportunity to gauge the value of his training-table diet.

A carefully balanced diet must be planned for all three meals.

SAMPLE DAY'S MENU

BREAKFAST

Cereal, Fruit Juices, Toast, Eggs, Crisp Bacon, Milk.

LUNCH

Meat (lamb, beef, liver, veal or chicken), Potatoes, Green Vegetables, Whole-Wheat Bread, Milk, Light Dessert.

DINNER

Soup, Meat (beef or lamb), Green Vegetables, Bread, Milk or Tea, Light Dessert.

PRE-GAME MENU

(To be eaten at least 4 hours prior to contest)

Meat (roast beef underdone, or lamb chops, or small steak), Green Vegetables, Whole-Wheat Toast, Preserves, Weak Tea or Milk.

Such a diet is planned to add strength without creating excess weight, and to help give the proper protein ration. It is important to guard against overeating. Therefore, the regular training-table diet may be augmented with the "Knox Drink." This pure, plain gelatine is all protein—contains no sugar—and when added to fruit juice, it has a definite food value in drink form.


The athletes should take their gelatine drink immediately after their shower and rub. (The drink can be made available to them in the gym or locker room.)

Knox Gelatine as a drink is not a stimulant or a quick "pick-up." It is a systematic aid in helping to keep up the athlete's condition—it is a supplementary food protein.

Knox Gelatine should be used because it has been successfully tried in many college training programs.

FRANK J. KAVANAGH, Trainers

ANNOUNCING



First Annual Scholastic Intramural BADMINTON TOURNAMENTS

HERE'S a way to encourage the boys and girls in your school to play what is probably America's fastest growing game—Badminton, a sport they can enjoy all their lives.

The National Scholastic Badminton Tournaments—all intramural—are open to all senior high schools in the United States. There is no entry fee nor any red tape attached to entering. Each school has complete control over its own tournaments, and may hold them any time this fall or next winter.

As an additional incentive handsome medals, suitably inscribed, will be presented to the winners of both the boy and girl tournaments in each school. Free draw charts will also be furnished to every school holding a tournament.

Don't miss this splendid opportunity! To enter either tournament, or both, just mail the coupon below.

Open to All
High Schools
—No Entry Fee



Medals to Boy and
Girl Winners
In Each School



Enter Your School Now

SCHOLASTIC BADMINTON TOURNAMENTS

220 East 42 Street, New York, N. Y.

Please register my school for the following tournaments:

☐ BOYS' SINGLES

☐ GIRLS' SINGLES

☐ DOUBLES

School enrollment.....Send medals by.....

Name.....Position.....

School.....

Street.....

City.....State.....



*In the
WORLD
of
SPORTS*

*As usual
the IVORY SYSTEM came through!*

All Football Equipment intrusted to our care for reconditioning after the 1940 season was ready for return shipment by August 15, and every customer who asked for an earlier delivery date, was accommodated.

There was no cutting of corners or skimping on materials, on our part, as the result of increased Inventory, Cost or Shortage. The exacting specifications of an IVORY SYSTEM Quality Job were faithfully carried out, and for the exact price quoted by our Estimators when equipment was taken months ago.

We mention these facts so that you may know that your Athletic Equipment is in safe and dependable hands when you place it in the care of the IVORY SYSTEM for reconditioning.

Send for Booklet "Romance of Leather"

Ask for your copy of Ivory System Observer



Ivory System

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